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TRANSPORTATION, COMMUNICATIONS,
PUBLIC UTILITIES

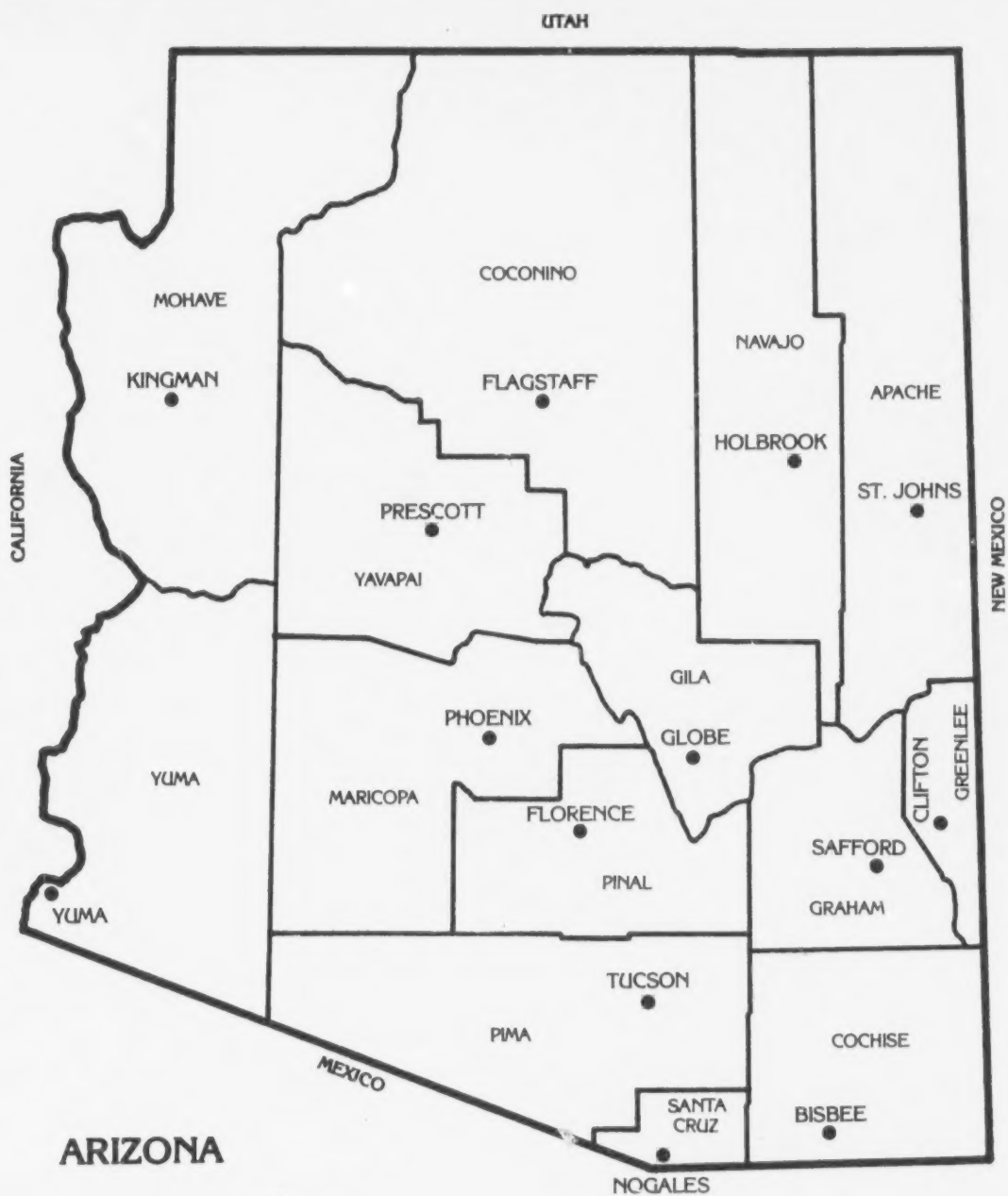
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occupational
profiles**

A Labor Market Information Publication of the Arizona Department of Economic Security

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OCCUPATIONAL PROFILES

The Transportation, Communications, and Public Utilities Occupational Profile is one in a series of publications produced from information developed by the Occupational Employment Statistics survey. The survey is used to collect county and statewide employment data for over 1,100 occupations in Arizona. From these surveys, which require the cooperation of the Arizona business community, current employment in the various occupations is determined, and from this an occupational outlook is formulated. The Occupational Profiles contain the survey findings, and examine, individually, the industries of Arizona.

Industries recently surveyed and for which profiles are now available include:

- Mining
- Finance, Insurance, and Real Estate
- Construction
- Services
- Government
- Trade
- Educational Services
- Manufacturing
- Transportation, Communications, and Public Utilities

For further information, or to comment on any aspect of this program, please write to the address on the back cover.

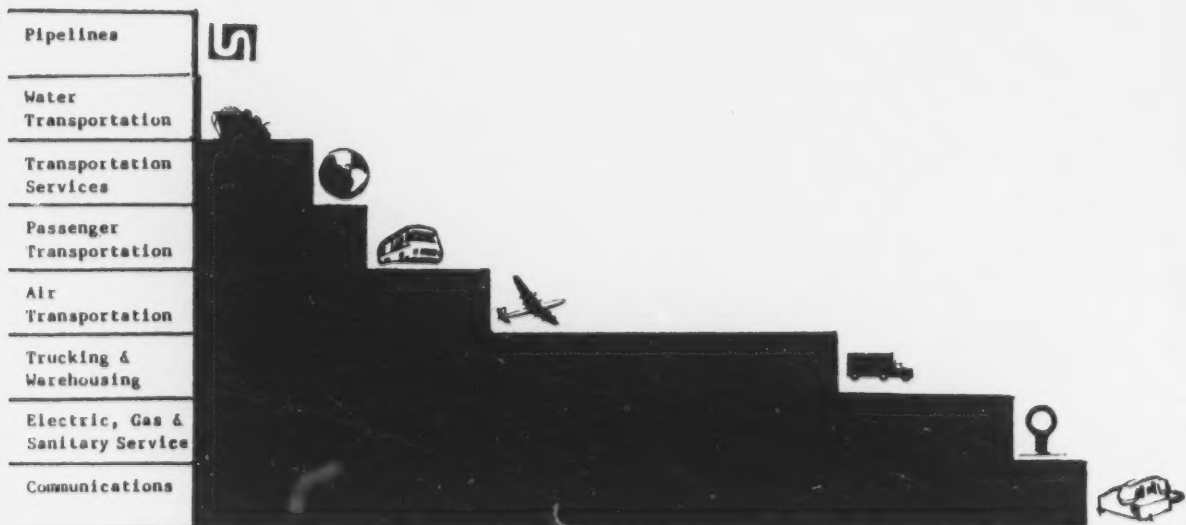
INDUSTRY INFORMATION

INDUSTRY DESCRIPTION

This publication provides occupational employment information for the regulated industries of transportation, communications, and public utilities. Regulated industries are found in the Standard Industrial Classification (SIC) Manual under codes 40-49. Of these, electric, gas, and sanitary services; trucking and warehousing; and communications contain the largest share of employees. Because governmental agencies share some of their functions, passenger and air transportation contain a substantially smaller portion of the employment. Water and pipeline transportation, and transportation services comprise less than 5 percent of the employment in the regulated industries.

Railroad and U.S. Postal Services' (SICs 40 and 43) employment is not included.

FIGURE 1: TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES EMPLOYMENT BY SECTOR



Transportation, communications, and public utilities are grouped together because they provide a public service and are owned or regulated by public agencies. The regulations vary from industry to industry, but, in general, their goals are to ensure fair prices and to see that the public interest is served.

TRANSPORTATION

INDUSTRY CHARACTERISTICS

Transportation workers move goods, materials, or people from one place to another and perform services incidental to transportation. Over half of Arizona's transportation workers are involved in motor freight.

Employment in transportation is concentrated in the Phoenix metropolitan area. Small firms dominate the industry and employ the majority of the workers. The larger firms, employing 100 people or more, are located in the Phoenix and Tucson metropolitan areas.

FIGURE 2: TRANSPORTATION EMPLOYMENT
BY ACTIVITY
MAY 1979

	Employment	Percent
Passenger Transport.	2,793	14.4
Motor Freight	9,824	50.6
Water	95	.5
Air	4,790	24.7
Pipeline	86	.4
Transport. Services	1,833	9.4

FIGURE 3: TRANSPORTATION
EMPLOYMENT BY
DISTRICT
MAY 1979

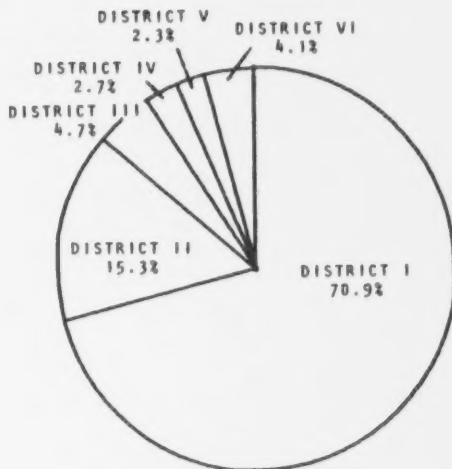
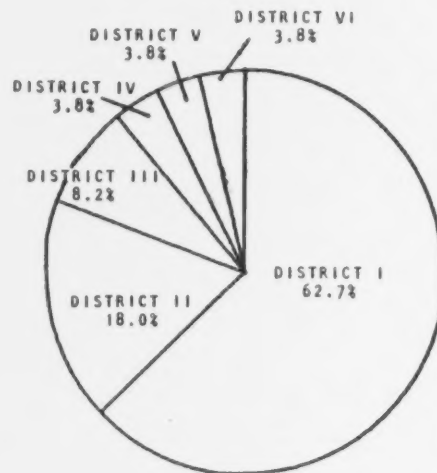


FIGURE 4: TOTAL ARIZONA
EMPLOYMENT BY
DISTRICT
MAY 1979



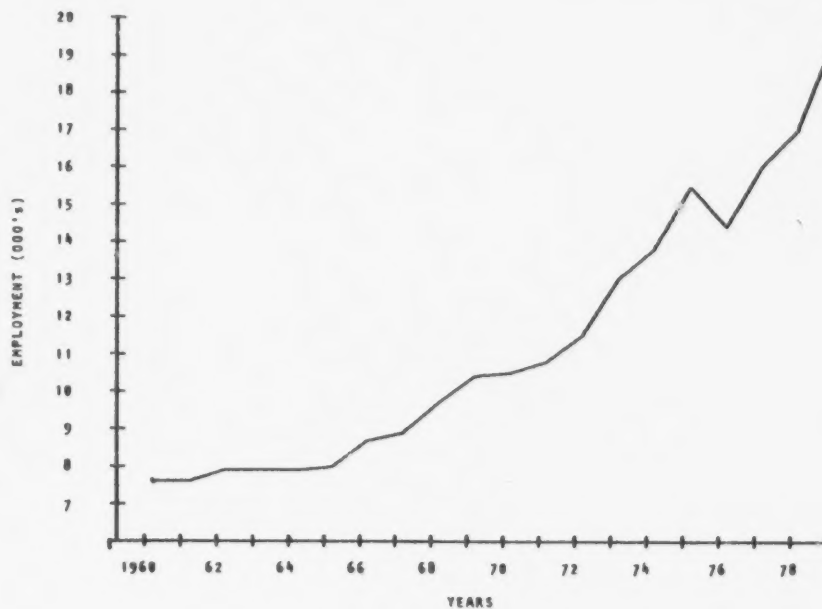
The districts in the graphs above and throughout this publication correspond with the state's counties as follows:

District I	Maricopa County (Phoenix)
District II	Pima County (Tucson)
District III	Apache, Coconino, Navajo, Yavapai counties
District IV	Mohave, Yuma counties
District V	Gila, Pinal counties
District VI	Cochise, Graham, Greenlee, Santa Cruz counties

INDUSTRY TRENDS

The transportation industry in Arizona has experienced moderate, stable growth in recent years, stimulated by the state's increasing population and business expansion.

FIGURE 5: WAGE AND SALARY EMPLOYMENT
IN THE TRANSPORTATION INDUSTRY



The transportation industry is burdened by the rising cost and limited supply of energy. The industry is expected to shift from finite sources to renewable sources as our energy technology improves. Meanwhile, all sectors are attempting to increase productivity of each energy dollar through wise management.

Over half of all Arizona transportation workers are employed by motor freight and warehousing. Trucking deregulation legislation indicates that far-reaching changes lie ahead for the industry. Legislation passed by the United States Congress, called the Motor Carrier Act of 1980, will partially deregulate the industry and goes into effect on January 1, 1982. The legislation is expected to increase the number of trucks competing for freight and, as time goes on, some firms will probably be eliminated.

In Arizona, there was a deregulation referendum on the November 4th ballot, which passed overwhelmingly. The legislation, which will become effective July 1, 1982, is more comprehensive than the national legislation. The Arizona legislation applies to intrastate motor freight only and allows virtually anyone to haul goods at any price.

Many in the industry believe the state deregulation favors the large carriers. It is frequently argued that service in small communities will suffer. Others in the industry believe that new, perhaps small, trucking firms will move into and maintain service in the regional markets.

In light of the discussion of the effect of deregulation on small motor freight carriers, it is interesting to look at the industry in Arizona by size of firm. Almost 70 percent of the trucking firms employ nine or fewer people; however, over 45 percent of the people work for large firms employing 100 or more.

FIGURE 6: LOCAL AND LONG DISTANCE TRUCKING
PERCENTAGE EMPLOYMENT BY SIZE OF FIRM
MARCH 1980

<u>Firm Size by Number of Employees</u>	<u>% of Firms</u>	<u>% of Employment</u>
9 or fewer	69.6	9.7
10-19	11.0	8.9
20-49	11.0	19.3
50-99	4.3	16.6
100-249	3.7	34.8
250-499	.2	3.5
500-999	.2	7.2
1000+	0	0

Employment growth in Arizona's air transportation industry, which has been substantial recently, will moderate over the next four years. Seventy-five percent of the 5,000 employees in the industry work for air carriers. The rest are primarily engaged in the operation and maintenance of airports, and in furnishing coordinated handling services for air freight or passengers.

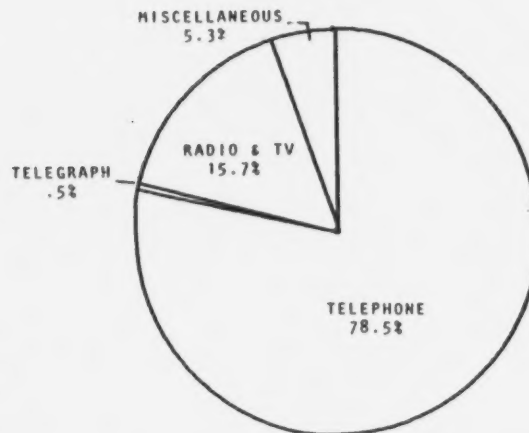


COMMUNICATIONS

INDUSTRY CHARACTERISTICS

The communication industry's primary activity is the provision of telephone service to residential, commercial, and industrial customers. As shown below, the telephone communications sector accounts for close to 80 percent of the employment in communications.

FIGURE 7: COMMUNICATIONS EMPLOYMENT BY SECTOR
MAY 1979



The greatest demand for telephone service is in the metropolitan areas where large concentrations of industrial, business, and governmental establishments are located. This demand is reflected in the employment distribution that follows.

FIGURE 8: COMMUNICATIONS
EMPLOYMENT BY DISTRICT
MAY 1979

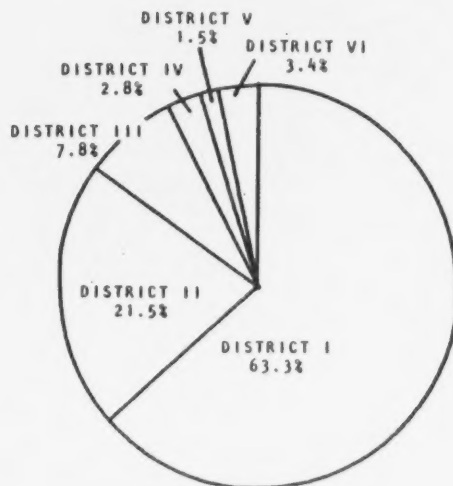
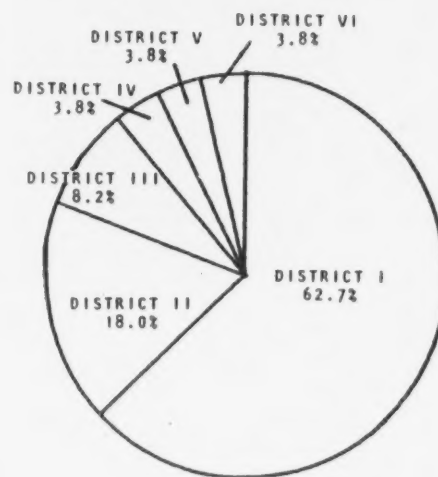
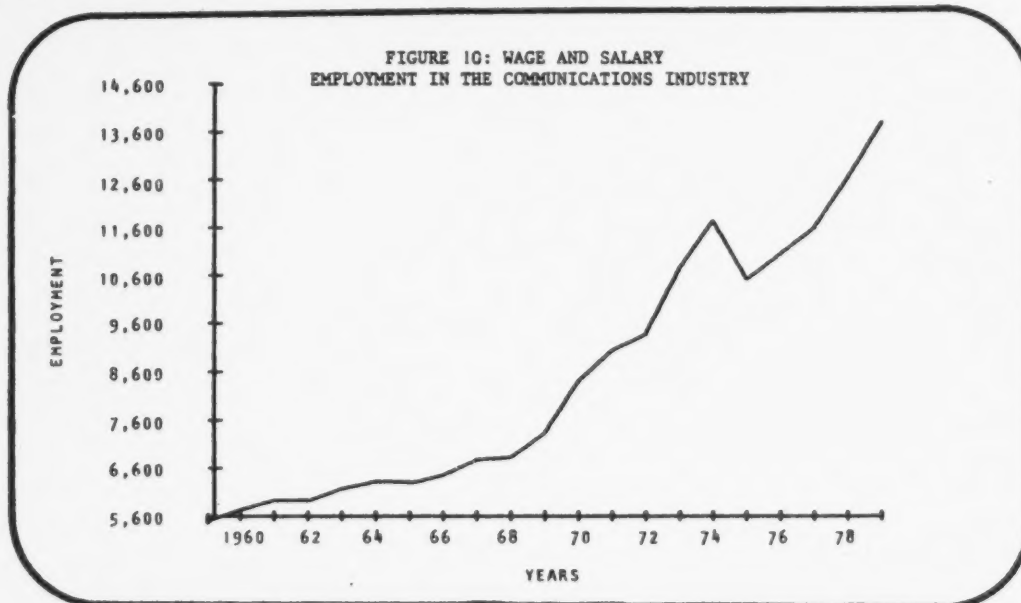


FIGURE 9: TOTAL ARIZONA
EMPLOYMENT BY DISTRICT
MAY 1979



INDUSTRY TRENDS

Employment in communications has grown fairly steadily in Arizona. Economic decline resulted in employment losses in 1975 and 1976, but the industry's employment picked up as the economy recovered.



New technology is both increasing employee productivity and intensifying demand from customers. Programmable machines provide services including push-button calling, three-way conference calls, international direct-distance dialing, and call-forwarding. Technology is used for remote maintenance of electronic switches, automatic testing and repair, administrative activities, and automated operator assistance systems. The number of telephones in operation per telephone communications employee has increased in Maricopa County from about 130 in 1973 to 165 in 1979. A similar increase in employee productivity has been experienced in Pima County.

Radio and television broadcasting employs about 15 percent of all communications workers. This sector of the industry is expected to grow quite slowly through 1983. The Federal Communications Commission (FCC) restricts the licensing of new radio and television stations, thus limiting employment growth. Technological developments will also limit additions of personnel in some occupations.

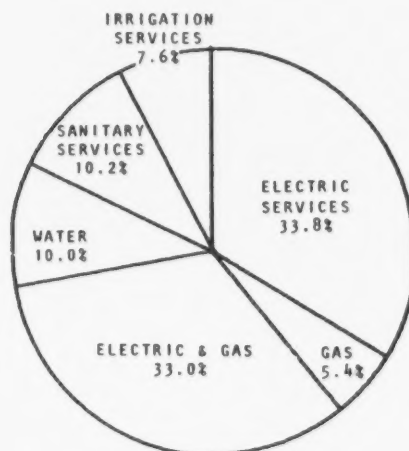
A bright light in the communications industry is cable television. Susan Bitter Smith, Executive Director of Arizona Cable Television Association, (ACTA) reports that "growth of the cable industry in Arizona is expected to skyrocket in the next year, as the cities of Tucson, Scottsdale, Glendale, Florence, and Coolidge are all in the process of granting a license to cable television." Cable television (CATV) offers customers programs produced specifically for cable television by using cables instead of airwaves.

PUBLIC UTILITIES

INDUSTRY CHARACTERISTICS

This major group includes firms that generate, transmit, and/or distribute electricity, gas, or steam. Firms engaged in the collection, distribution, and disposal of water are also included.

FIGURE 11: PUBLIC UTILITIES EMPLOYMENT
BY SECTOR



Employment within the industry is distributed similarly to total Arizona employment, as depicted below. Location of power plants in District III, including the new Coronado Power Plant near St. Johns and the expansion of the Cholla Plant at Joseph City, give the area a relatively large share of public utilities employment.

FIGURE 12: PUBLIC UTILITIES
EMPLOYMENT BY DISTRICT
MAY 1979

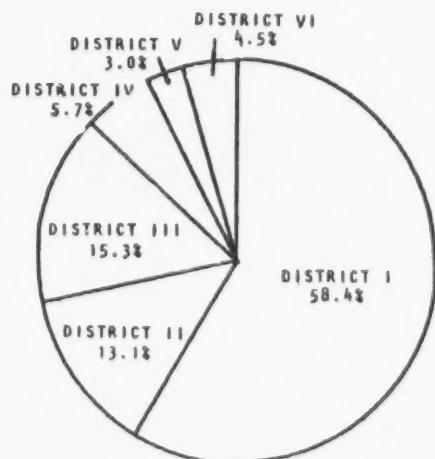
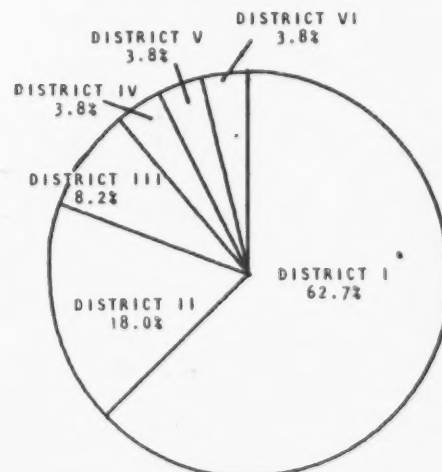
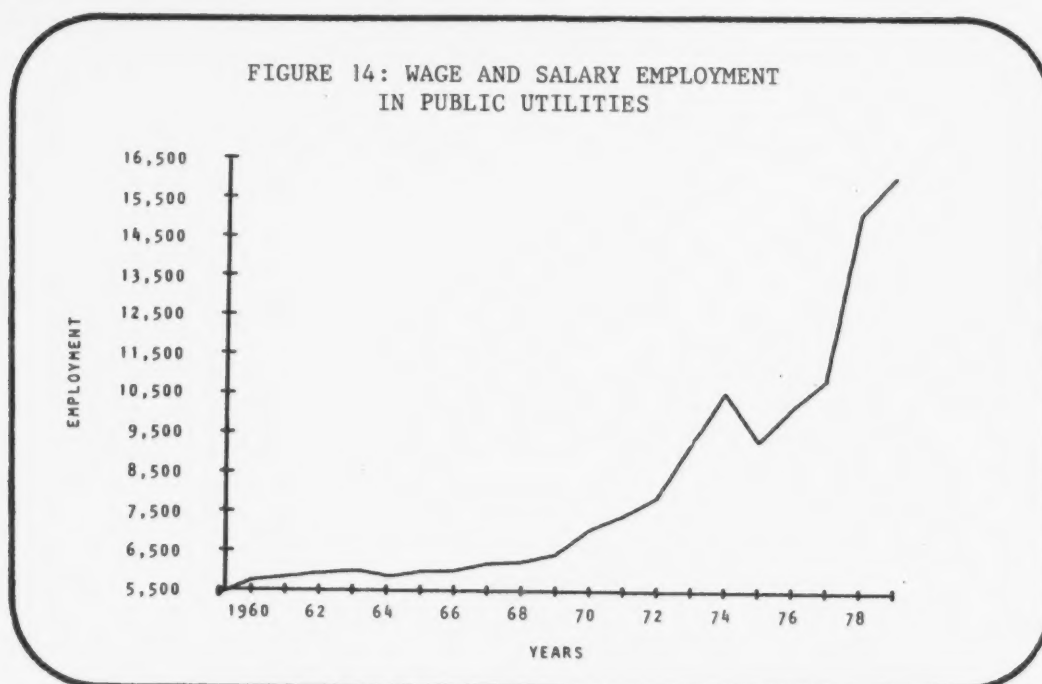


FIGURE 13: TOTAL ARIZONA
EMPLOYMENT BY DISTRICT
MAY 1979



INDUSTRY TRENDS

Growth of Arizona's public utilities industry is shown below. The industry is expecting continued moderate growth through 1983.



Employment in electric services is expected to grow somewhat faster than the other utilities as power plants are built to meet the state's growing demand for electricity. Mary Ann Monahan, Personnel Manager at Tucson Electric Power Company, expects employment growth for that company during the next four years will be "primarily the result of the new generating plant in northeastern Arizona."

Employment growth in utilities relates to increasing consumption of electricity, gas, and water. An example of this increasing consumption is the number of utility connections for energy. From 1970 to 1978, electricity connections increased by over 60 percent in the Phoenix area and by over 50 percent in the Tucson area.

FIGURE 15: UTILITY CONNECTIONS
1969-1979

Year End	Phoenix Area		Tucson Area	
	Electric	Gas	Electric	Gas
1969	284,621	217,883	104,337	96,541
1970	295,783	226,580	112,681	101,567
1971	315,810	238,537	121,457	109,476
1972	339,957	248,578	130,648	118,244
1973	381,349	260,248	140,211	126,722
1974	405,876	264,466	145,698	132,054
1975	414,833	262,414	149,529	136,333
1976	429,935	266,728	154,289	138,085
1977	463,806	282,497	160,587	138,344
1978	496,799	282,780	169,974	139,247
1979	535,045	282,455	179,973	141,223

Source: Arizona Statistical Review. September 1980, Valley National Bank of Arizona.

Another measure of energy consumption is found in the sales of electric power, where sales have continued to increase in recent years despite conservation efforts. According to a 1979 consultant report to the Corporation Commission, electric sales by Arizona Public Service will nearly double from 1977 to 1988, and sales for Tucson Electric Power Company will increase nearly 70 percent.

FIGURE 16: SALES OF ELECTRIC POWER
IN ARIZONA
(in Millions of KWH)

<u>Month</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
January	1,868.0	1,887.4	1,870.5	2,206.5
February	1,695.0	1,710.3	1,736.6	1,888.8
March	1,943.8	1,969.7	1,802.3	2,045.0
April	1,863.2	1,936.2	1,833.0	2,022.6
May	2,157.2	2,007.1	2,139.1	2,302.5
June	2,489.4	2,603.2	2,657.0	2,739.8
July	2,826.8	2,861.6	2,991.8	3,153.2
August	2,856.3	2,880.7	2,924.2	2,997.0
September	2,357.3	2,416.8	2,547.3	2,833.7
October	1,891.6	1,917.5	2,128.7	2,265.0
November	1,770.0	1,682.6	1,849.3	2,047.8
December	1,981.5	1,779.0	2,125.4	2,177.4
TOTAL	25,700.1	25,652.1	26,605.2	28,679.3

Source: Arizona Statistical Review. September 1980, Valley National Bank of Arizona.

Due to the growing use of automatic controls, employment will not increase as fast as electric power production. The use of larger and more efficient equipment will also improve employee productivity. For example, it takes only one turbine operator to control a turbo-generator regardless of the generator's size. This new technology, as well as various regulations, will affect manpower growth in this changing industry.

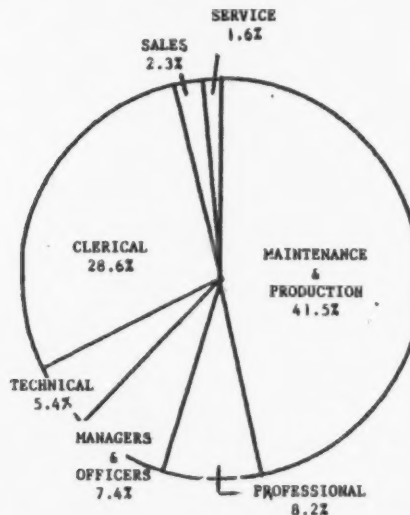
Public utility companies are working to reduce the state's dependence on expensive and limited oil. Coal-fired generating plants produce a greater share of Arizona's electricity than ever before, and the nation's largest nuclear power plant, Palo Verde, is under construction 50 miles west of Phoenix. Innovations and testing of solar-powered generators also hold promise for the future. Some of the effects of these new developments upon employment are discussed in the Occupational Trends section of this publication.

OCCUPATIONAL INFORMATION

OCCUPATIONAL ANALYSIS

Employment in transportation, communications, and public utilities is dominated by maintenance and production workers. Clerical workers are also heavily represented. These relationships are graphed below.

FIGURE 17: OCCUPATIONS IN TRANSPORTATION, COMMUNICATIONS,
AND PUBLIC UTILITIES
MAY 1979



In transportation, operatives are the largest group of workers. More tractor-trailer drivers are employed than any other occupation. Other operatives frequently reported include drivers of heavy trucks (capacity of more than three tons) and light trucks (capacity under three tons).

Tractor-trailer drivers drive long distances, sometimes at night, and may load and unload their trucks and perform routine maintenance. Minimum qualifications, set by the Interstate Commerce Commission include: 21 years of age, able-bodied, good hearing and vision, at least one year's driving experience, and a good driving record. Many employers have additional standards.

Women represent a minority in trucking, but their numbers continue to increase. The idea that driving is a man's occupation is still prevalent; however, if a woman gets adequate instruction, accurate information, is willing to push to get jobs, and works competently, she can expect success.

Rewards of professional truck driving often mentioned by drivers include good income, a feeling of independence, and the opportunity to travel. Dave Stallings of CTI, inter and intra state haulers of bulk cement and construction materials, foresees that if the proposed deregulation becomes a reality, the number of drivers will probably increase. He cautions that "income from the occupation could also drop in an attempt to cut costs to be more competitive."

The communications industry employs many clerical workers to help provide vital public services. Customer service representatives and central office operators are frequently reported occupations (Figure 18). Technological improvements will limit the employment of operators; nevertheless, many workers will be hired each year to replace experienced operators who retire, stop working, or advance to other occupations.

The dominant professional occupation in telephone communications is engineering. Engineers in communications plan cable and microwave routes, central office and PBX equipment installations, and communication systems for new buildings, as well as engage in research and development of new equipment. Other professional workers in the sector include personnel and labor relations specialists and public relations practitioners.

Job opportunities in radio and television are limited. Job seekers are restricted to existing television and radio stations where turnover is low and competition is keen. Jim Martinez, Director of Public Affairs at KPNX, states that they look for employees with "substantial experience in their fields. For example, in time-sales, we look for college graduates with five years sales experience in radio and television..." He goes on to say that television and radio is probably "one of the most competitive fields in the world. New graduates cannot expect to find employment in the Phoenix metropolitan area." The novice should be prepared to go to a small or smaller city where entrance is possible, but competitive.

Cable television has emerged as a new force in communications. Job opportunities for cable installers, technicians, marketing, sales, and clerical workers will be created as CATV systems in Arizona grow. Susan Bitter Smith (ACTA) estimates a need for approximately 75 additional cable installers and 50 additional technicians in Maricopa County during 1981. The Tucson license is expected to be granted sometime in the spring of 1981, creating a need for about 30 cable installers and 25 technicians. Outside of Maricopa County and Pima County, job openings are estimated at 30 cable installers and 25 technicians during 1981. Ms. Smith adds "typically, installers can expect to make from \$4.00 per hour to \$5.50 per hour. Technicians can expect to make from \$4.50 to \$6.00 per hour."

After the initial installation process, the demand for installers will drop. Installers will then be needed to lay cable in new residential developments, connect new customers' televisions, and service cables already in place. Skills learned as a cable television installer can be transferred to other areas of the communications industry.

About half of the electric, gas, and sanitary services industry's employees are found in maintenance and production occupations. Many of these workers install and repair equipment or powerlines. Demand for these occupations is expected to increase as the construction industry improves.

Women are now being sought for craft occupations that have been traditionally male dominated. Joseph Gelinas, Vice President of Employee Relations at Arizona Public Service Company, comments that APS has, in the recent past, initiated training programs designed to encourage women to begin careers as linemen and electricians. He cautions that "these jobs involve continual work around high voltage electricity."

Mary Ann Monahan (Tucson Electric Power Company) states that Tucson Electric "actively seeks women in line construction, transmission, and meter reading." She stresses that these jobs have not been changed or altered. Women considering entering a trade with the utilities can expect responsibilities equal to the men.

Employment opportunities in highly technical fields are being created by nuclear power technology. Nationwide, engineers, scientists, and technicians made up approximately 45 percent of the nuclear industry work force, according to a survey done by the Bureau of Labor Statistics in the fall of 1977. Qualified engineers and technicians in instrumentation and control will be in greater demand during the next four years than in the past; however, the actual number of job opportunities will be limited. People will also be needed to work in radiation protection, computer applications, and fuel management.

Joseph Gelinas (APS) advises that a career as an instrument control technician in nuclear power has a great deal to offer the graduate of a two-year junior college pre-engineering curriculum. The new employee "continues in a trainee capacity for two years." At that time he or she has "the equivalent of a bachelors degree and can find employment in any part of the nation." Gelinas continues, "fully qualified, experienced instrument control technicians earn around \$25,000 annually, with potential for increased earnings from overtime work."

The solar energy industry is, for the most part, in the phase of research and development. Job opportunities are emerging in the manufacturing and sale of solar devices. Future job openings in solar-related occupations in public utilities, however, are largely dependent on Federal funding of research and development projects. A 1979 Department of Energy task force report on education and training in the solar industry states that "the most difficult to hire solar occupations include engineers, atmospheric scientists, operations systems designers, researchers, and college/university teachers." The aspiring solar engineer is advised to pursue a traditional engineering curriculum. The industry employs primarily mechanical engineers.

Figure 18 lists the most commonly occurring occupations in transportation, communications, and public utilities. The expected number of job openings during the next four years is also listed. The number of job openings represents growth of the industry and separations from the labor force and do not account for labor turnover.

FIGURE 18: MOST FREQUENTLY OCCURRING OCCUPATIONS IN ARIZONA'S
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES INDUSTRIES

	Employment 1979	Job Openings 1979-83
Tractor-Trailer Drivers	2,572	567
General Office Clerks	1,584	634
Supervisors, Nonworking	1,563	381
Customer Service Representatives	1,352	541
Central Office Operators	1,244	588
Truck Drivers, Light	1,027	226
Truck Drivers, Heavy	1,021	225
Secretaries	881	383
Electrical & Electronic Technicians	857	184
Electrical & Electronic Engineers	791	167
Central Office Repairers	719	163
Bus Drivers	684	192
Sales Representatives	650	178
Line Installers, Repairers	629	131
Travel Agents	616	181
Ticket Agents	600	181
Delivery & Route Workers	574	127
Accounting Clerks	572	221
Radio Mechanics	564	130
Meter Readers, Utilities	563	118
Typists	531	244
Station Installers	519	109
Dispatchers	516	145
Clerical Supervisors	499	141
Electricians	472	113
Announcers	463	102
Truck Drivers' Helpers	460	120
Directory Assistance Operators	455	215
Aircraft Mechanics	447	93
Truck Drivers	423	94
Automotive Mechanics	395	89
Airplane Pilots	388	81
Diesel Mechanics	383	88
Taxi Drivers	356	102
Cable Installers	354	66
Transportation Agents	351	105

OCCUPATIONAL STRUCTURE

The following tables provide employment estimates and projected employment and job openings for the counties and the state.

When using the data, please note the following:

- 1) The data reflect full and part-time wage and salary employment only, and does not include self-employed or unpaid family workers.
- 2) Total job openings represent the number of openings due to growth of the industry and separations from the labor force. They do not account for labor turnover, i.e., openings created when a worker changes jobs, leaving the job to be filled by someone else. These vacancies are generally the largest source of job openings.
- 3) The tables represent a summation of surveys across specific industry categories within the classification as a whole. The estimating procedure for the OES Program does not provide for calculation of relative error (a reliability measure) across industry sectors.
- 4) To eliminate the possible disclosure of confidential employer information, occupations have been added to the appropriate "all other" or residual category if: less than three firms reported a single occupation; one firm reported more than 50 percent of the occupational estimate; two firms combined reported more than 75 percent of the occupational estimate.
- 5) The estimation and projection technique does not possess the degree of accuracy that may be implied by small employment changes and demand figures.

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

STATEWIDE

	Estimated 1979 Employment	Percent of Total 1979 Employment	Projected 1983 Employment	Percent of Total 1983 Employment	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	3,411	7.4	3,961	7.4	974
TOTAL PROFESSIONAL WORKERS	3,733	8.2	4,361	8.2	967
Chemical Engineers	11	0.0	13		2
Civil Engineers	44	0.1	51		11
Electrical & Electronic Engineers	791	1.7	924		167
Industrial Engineers	22	0.0	26		4
Mechanical Engineers	144	0.3	168		31
Nuclear Engineers	2	0.0	2		0
All Other Engineers	351	0.8	410		78
Natural & Mathematical Scientists	10	0.0	12		2
Mathematical Scientists	7	0.0	8		1
All Other Physical Scientists	1	0.0	1		0
Systems Analysts, Electronic Data Processing	71	0.2	83		16
Teachers, Vocational Education or Training	79	0.2	92		25
Photographers	64	0.1	75		17
Television Camera Operators	80	0.2	93		25
Purchasing Agents &/or Buyers	66	0.1	77		19
Accountants & Auditors	226	0.5	264		72
Announcers	463	1.0	541		102
Broadcast News Analysts	125	0.3	146		29
Commercial Artists	13	0.0	15		6
Writers &/or Editors	61	0.1	71		22
Film Editors	34	0.1	40		14
Lawyers	13	0.0	15		2
Librarians, Professional	14	0.0	16		6
Personnel & Labor Relations Specialists	132	0.3	154		38
Public Relations Practitioners	20	0.0	23		7
Reporters & Correspondents	66	0.1	77		23
Right-of-Way Agents	22	0.0	26		8
Technical Directors	14	0.0	16		2
Travel Agents &/or Travel Accomodations Appraisers	616	1.3	720		181
Home Economists	1	0.0	1		0
All Other Professional Workers	170	0.4	199		55
TOTAL TECHNICAL WORKERS	2,488	5.4	2,907	5.4	568
Computer Programmers	132	0.3	154		30
Drafters	96	0.2	112		24
Electrical & Electronic Technicians	857	1.9	1,001		184
Surveyors	32	0.1	37		5
Sound Recording & Reproduction Technicians	6	0.0	7		1
Broadcast Technicians	128	0.3	150		28
Light Technicians	19	0.0	22		3
Estimators & Drafters, Utilities	79	0.2	92		21
All Other Engineering Technicians	303	0.7	354		77
Science Technicians	2	0.0	2		0
Flight Engineers	35	0.1	41		6
Airplane Pilots	388	0.8	453		81
Radio Operators	28	0.1	33		9
All Other Technical Workers	383	0.3	448		98
TOTAL SERVICE WORKERS	745	1.6	866	1.6	304
Janitors, Porters, & Cleaners	216	0.5	251		69
Guards & Doorkeepers	27	0.1	31		4
Food Service Workers	27	0.1	31		8
Flight Attendants	326	0.7	379		173
Supervisors, Nonworking	73	0.2	85		17
Guides, Travel	9	0.0	11		6
Baggage Porters	55	0.1	64		21
All Other Service Workers	12	0.0	14		6

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

STATEWIDE (Continued)

	Estimated 1979 Employment	Percent of Total 1979 Employment	Projected 1983 Employment	Percent of Total 1983 Employment	Total Job Openings 1979-1983
TOTAL MAINTENANCE & PRODUCTION WORKERS	21,329	46.5	24,852	46.6	2,055
Mechanics, Aircraft	447	1.0	521		93
Mechanics, Aircraft, Apprentice	12	0.0	14		2
Mechanics, Automotive	395	0.9	460		89
Mechanics, Automotive, Apprentice	19	0.0	22		3
Diesel Mechanics	383	0.8	446		88
Diesel Mechanics, Apprentice	10	0.0	12		2
Electric Meter Installers	172	0.4	200		36
Engineering Equipment Mechanics	16	0.0	19		3
Hydroelectric Machinery Mechanics	63	0.1	73		14
Mechanics, Maintenance	94	0.2	110		24
Radio Mechanics	564	1.2	657		130
Refrigeration/Air Conditioning Mechanics	1	0.0	1		0
Refrigeration/Air Conditioning Mechanics, Apprentice	1	0.0	1		0
Treatment Plant Mechanics	15	0.0	17		2
Household Appliance Repairers	28	0.1	33		9
Water Meter Installers	43	0.1	50		7
All Other Mechanics & Repairers	202	0.4	235		48
Truck Drivers	423	0.9	493		94
Truck Drivers, Heavy	1,021	2.2	1,190		225
Truck Drivers, Light	1,027	2.2	1,197		226
Tractor-Trailer Truck Drivers	2,572	5.6	2,997		567
Baggage Handlers	177	0.4	206		45
Bus Drivers	684	1.5	797		192
Cable Installers	354	0.8	412		66
Cable Repairers	170	0.4	198		36
Cable Repairers, Apprentice	1	0.0	1		0
Cable Splicers	285	0.6	332		55
Carpenters	35	0.1	41		10
Carpenters, Apprentice	1	0.0	1		0
Central Office Repairers	719	1.6	838		163
Cleaners, Vehicle	184	0.4	214		38
Control Room Operators, Steam	106	0.2	124		34
Corrosion Control Fitters	50	0.1	58		12
Crane, Derrick, & Hoist Operators	42	0.1	49		11
Delivery & Route Workers	574	1.3	669		127
Diesel Plant Operators	53	0.1	62		17
Electricians	472	1.0	550		113
Electricians, Apprentice	39	0.0	45		10
Auxiliary Equipment Operators	193	0.4	225		59
Supervisors, Nonworking	1,563	3.4	1,821		381
Frame Wires	187	0.4	218		39
Gas Compressor Operators	37	0.1	43		10
Gas Pumping Station Operators	59	0.1	69		18
Ground Workers, Utilities	127	0.3	148		41
Heavy Equipment Operators	269	0.6	313		61
Industrial Truck Operators	202	0.4	235		45
Inspectors	53	0.1	62		17
Installers, Repairers, &/or Section Maintainers	139	0.3	162		33
Instrument Repairers	56	0.1	65		13
Line Installers, Repairers	629	1.4	733		131
Line Installers, Repairers, Apprentice	84	0.2	98		18
Machinists	274	0.6	319		67
Machinists, Apprentice	7	0.0	8		1
Maintenance Repairers, General Utility	193	0.4	225		46
Helpers, Trades	370	0.8	431		96
Oilers	67	0.1	78		19
Painters, Maintenance	37	0.1	43		10
Pipelayers	92	0.2	107		23
Plumbers &/or Pipefitters	45	0.1	52		11
Refuse Collectors	186	0.4	217		39

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

STATEWIDE (Continued)

	<u>Estimated 1979 Employment</u>	<u>Percent of Total 1979 Employment</u>	<u>Projected 1983 Employment</u>	<u>Percent of Total 1983 Employment</u>	<u>Total Job Openings 1979-1983</u>
Sewage Plant Operators	11	0.0	13		2
Station Installers	519	1.1	605		109
Station Installers, Apprentice	6	0.0	7		1
Stationary Engineers	31	0.1	36		9
Substation Operators	50	0.1	58		12
Switchboard Operators, Generating Plant	71	0.2	83		16
Taxi Drivers	356	0.8	415		102
Telegraph Plant Maintainers	22	0.0	26		4
Trouble Locators, Test Desk	125	0.3	146		25
Trouble Shooters, Power Lines	147	0.3	171		34
Turbine Operators	78	0.2	91		25
Watershed Tenders	135	0.3	157		34
Water Treatment Plant Operators	27	0.1	32		9
Welders & Flamecutters	110	0.2	128		30
Fuel Pump Attendants &/or Lubricators	27	0.1	32		9
Tire Changers	18	0.0	21		3
Surveyor Helpers	33	0.1	39		10
Dispatchers, Load	48	0.1	56		12
Truck Driver Helpers	460	1.0	536		120
Line Service Attendants	320	0.7	373		88
Painters, Aircraft	14	0.0	16		2
Painters, Aircraft, Apprentice	2	0.0	2		0
Locker Plant Attendants	36	0.1	42		10
Ambulance Drivers &/or Attendants	501	1.1	584		137
Tree Trimmers	39	0.1	45		10
All Other Skilled Craft Workers	345	0.8	402		81
All Other Operatives & Semiskilled Workers	344	0.8	401		95
All Other Laborers & Unskilled Workers	1,131	2.5	1,318		297
TOTAL CLERICAL WORKERS	13,141	28.6	15,216	28.5	4,976
Bookkeeping &/or Billing Machine Operators	117	0.3	136		45
Computer Operators	103	0.2	119		28
Key punch Operators	171	0.4	198		72
Peripheral EDP Equipment Operators	44	0.1	51		19
All Other Office Machine Operators	44	0.1	51		20
Stenographers	120	0.3	139		50
Accounting Clerks	572	1.2	662		221
Reservation Agents	150	0.3	174		45
Bookkeepers, Hand	223	0.5	258		86
Adjustment Clerks	32	0.1	37		13
Cashiers	150	0.3	174		59
Collectors	121	0.3	140		36
File Clerks	126	0.3	146		59
General Clerks, Office	1,584	3.5	1,834		634
Mail Clerks	88	0.2	102		30
Order Clerks	80	0.2	93		32
Payroll &/or Timekeeping Clerks	75	0.2	87		28
Personnel Clerks	33	0.1	38		15
Private Branch Service Advisors	32	0.1	37		13
Receptionists	119	0.3	138		56
Secretaries	881	1.9	1,020		383
Service Observers	42	0.1	49		20
Statistical Clerks	240	0.5	278		96
Switchboard Operators	88	0.2	102		42
Switchboard Operators/Receptionists	40	0.1	46		18
Messengers	6	0.0	7		1
Ticket Agents	600	1.3	695		181
Traffic Clerks	73	0.2	85		30
Typists	531	1.2	615		244
Clerical Supervisors	499	1.1	578		141
Directory Assistance Operators	455	1.0	527		215

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

STATEWIDE (Continued)

	Estimated 1979 Employment	Percent of Total 1979 Employment	Projected 1983 Employment	Percent of Total 1983 Employment	Total Job Openings 1979-1983
Central Office Operators	1,244	2.7	1,440		588
Customer Service Representatives	1,352	3.0	1,565		541
All Other Office Clerical Workers	608	1.3	704		244
Meter Readers, Utilities	563	1.2	652		118
Production Clerks &/or Coordinators	208	0.5	241		54
Shipping Packers	75	0.2	87		20
Shipping &/or Receiving Clerks	178	0.4	206		43
Stock Clerks	338	0.7	391		90
Dispatchers, Airplane	24	0.1	28		4
Transportation Agents	351	0.8	406		105
Dispatchers, Vehicle, Service or Work	516	1.1	597		145
Dispatchers, Police, Fire, & Ambulance	32	0.1	37		9
Manifest Clerks	8	0.0	9		1
Rate Clerks, Freight	46	0.1	53		19
All Other Plant Clerical Workers	159	0.3	184		63
TOTAL SALES WORKERS	1,056	2.3	1,228	2.3	305
Sales Agents, Associates &/or Representatives	650	1.4	756		178
Crating & Moving Estimators	56	0.1	65		17
Traffic Agents	210	0.5	244		64
All Other Sales Agents, Associates, &/or Representatives	121	0.3	141		39
Sales Clerks	19	0.0	22		7
TOTAL ALL OCCUPATIONS	45,903	100.0	53,391	100.0	13,149

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

MANAGERS & OFFICERS

All Other Managers
Captains, Water Vessel

PROFESSIONAL WORKERS

All Other Engineers
Engineers
Aeronautical Engineers

All Other Professional Workers
Systems Analysts, Scientific & Technical

TECHNICAL WORKERS

All Other Engineering Technicians
Video Recording Engineers

All Other Technical Workers
Emergency Medical Technicians

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
Body Repairers, Automotive
Marine Mechanics &/or Repairers
Power Transformer Repairers
Electronic Mechanics

MAINTENANCE & PRODUCTION WORKERS (Cont'd.)

All Other Skilled Craft Workers
Automatic Maintainers
Painters, Automotive
Station Engineers, Main Line
Street Light Repairers & Servicers
Telegraph Equipment Maintainers
Bus Drivers, School

All Other Operatives & Semiskilled Workers
Craters
Marine Service Station Attendants
Pipe Wrapping Machine Operators
Stationary Boiler Firers
Pump Station Operators, Waterworks
Boat Patchers, Plastics
Chauffeurs
Motor Boat Operators

CLERICAL WORKERS

All Other Office Clerical Workers
Claim Adjusters
Information Clerks
Procurement Clerks
Service Clerks
Script Clerks
Telegraph Operators

All Other Plant Clerical Workers
Crew Schedulers
Weather Clerks

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

APACHE COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	62	80	18	8	26
TOTAL PROFESSIONAL WORKERS	33	43	10	0	10
Civil Engineers	1	1	0	0	0
Electrical & Electronic Engineers	2	3	1	0	1
Mechanical Engineers	4	5	1	0	1
All Other Engineers	1	1	0	0	0
Systems Analysts, Electronic					
Data Processing	1	1	0	0	0
Purchasing Agents &/or Buyers	3	4	1	0	1
Accountants & Auditors	7	9	2	0	2
Personnel & Labor Relations Specialists	4	5	1	0	1
Public Relations Practitioners	1	1	0	0	0
Right-of-Way Agents	1	1	0	0	0
Home Economists	1	1	0	0	0
All Other Professional Workers	7	9	2	0	2
TOTAL TECHNICAL WORKERS	50	65	15	0	15
Computer Programmers	1	1	0	0	0
Drafters	12	16	4	0	4
Electrical & Electronic Technicians	17	22	5	0	5
Estimators & Drafters, Utilities	2	3	1	0	1
All Other Engineering Technicians	9	12	3	0	3
Science Technicians	2	3	1	0	1
Airplane Pilots	7	9	2	0	2
TOTAL SERVICE WORKERS	21	27	6	4	10
Janitors, Porters, & Cleaners	16	21	5	4	9
Guards & Doorkeepers	2	3	1	0	1
Supervisors, Nonworking	3	4	1	0	1
TOTAL MAINTENANCE & PRODUCTION WORKERS	597	775	178	43	221
Mechanics, Automotive	17	22	5	0	5
Diesel Mechanics	5	6	1	0	1
Hydroelectric Machinery Mechanics	3	4	1	0	1
Mechanics, Maintenance	38	49	11	4	15
Treatment Plant Mechanics	2	3	1	0	1
All Other Mechanics & Repairers	5	6	1	0	1
Carpenters	2	3	1	0	1
Central Office Repairers	14	18	4	0	4
Control Room Operators, Steam	19	25	6	4	10
Electricians	20	26	6	0	6
Auxiliary Equipment Operators	54	70	16	8	24
Supervisors, Nonworking	69	90	21	5	26
Frame Wires	1	1	0	0	0
Gas Compressor Operators	21	27	6	4	10
Ground Workers, Utilities	3	4	1	0	1
Heavy Equipment Operators	14	18	4	0	4
Industrial Truck Operators	3	4	1	0	1
Inspectors	1	1	0	0	0
Installers, Repairers, &/or Section					
Maintainers	3	4	1	0	1
Instrument Repairers	22	29	7	0	7
Line Installers, Repairers	13	17	4	0	4
Line Installers, Repairers, Apprentice	21	27	6	0	6
Machinists	7	9	2	0	2
Maintenance Repairers, General Utilities	6	8	2	0	2
Helpers, Trades	59	77	18	7	25
Oilers	16	21	5	0	5
Painters, Maintenance	1	1	0	0	0
Plumbers &/or Pipefitters	4	5	1	0	1
Plumbers &/or Pipefitters, Apprentice	1	1	0	0	0

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

APACHE COUNTY (Continued)

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
Sewage Plant Operators	6	8	2	0	2
Station Installers	18	23	5	0	5
Station Installers, Apprentice	6	8	2	0	2
Substation Operators	1	1	0	0	0
Substation Operators, Apprentice	1	1	0	0	0
Welders & Flamecutters	13	17	4	0	4
Surveyor Helpers	4	5	1	0	1
All Other Skilled Craft Workers	5	6	1	0	15
All Other Operatives & Semiskilled Workers	36	47	11	4	15
All Other Laborers & Unskilled Workers	63	82	19	7	26
TOTAL CLERICAL WORKERS	236	305	69	51	120
Computer Operators	2	3	1	0	1
Key Punch Operators	7	9	2	3	5
Accounting Clerks	26	34	8	7	15
Cashiers	7	9	2	2	4
Collectors	4	5	1	0	1
File Clerks	3	4	1	0	1
General Clerks, Office	17	22	5	4	9
Personnel Clerks	2	3	1	0	1
Private Branch Advisors	3	4	1	0	1
Secretaries	19	25	6	6	12
Service Observers	5	6	1	0	1
Service Clerks	3	4	1	0	1
Switchboard Operators	1	1	0	0	0
Switchboard Operators/Receptionists	2	3	1	0	1
Typists	11	14	3	4	7
Clerical Supervisors	13	17	4	0	4
Directory Assistance Operators	4	5	1	0	1
Central Office Operators	48	62	14	17	31
Customer Service Representatives	11	14	3	4	7
All Other Office Clerical Workers	3	4	1	0	1
Meter Readers, Utilities	16	20	4	0	4
Shipping &/or Receiving Clerks	6	8	2	0	2
Stock Clerks	19	25	6	4	10
Dispatchers, Vehicle	4	5	1	0	1
TOTAL SALES WORKERS	4	5	1	0	1
TOTAL ALL OCCUPATIONS	1,003	1,300	297	106	403

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

MAINTENANCE & PRODUCTION WORKERS

All Other Skilled Craft Workers
Cable Splicers

All Other Operatives & Semiskilled Workers
Truck Drivers, Heavy
Cable Installers

All Other Laborers & Unskilled Workers
Refuse Collectors

Clerical Workers

All Other Office Clerical Workers
Statistical Clerks

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

COCHISE COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	91	108	17	12	29
TOTAL PROFESSIONAL WORKERS	86	103	17	4	21
Electrical & Electronic Engineers	23	28	5	0	5
All Other Engineers	1	1	0	0	0
Systems Analysts, Electronic Data Processing	2	2	0	0	0
Purchasing Agents &/or Buyers	9	11	2	0	2
Announcers	23	28	5	0	5
Right-Of-Way Agents	2	2	0	0	0
Travel Agents	7	8	1	0	1
All Other Professional Workers	19	23	4	4	8
TOTAL TECHNICAL WORKERS	90	107	17	4	21
Computer Programmers	2	2	0	0	0
Electrical & Electronic Technicians	55	65	10	4	14
Surveyors	1	1	0	0	0
Estimators & Drafters, Utilities	7	8	1	0	1
All Other Engineering Technicians	7	8	1	0	1
All Other Technical Workers	18	21	3	0	3
TOTAL SERVICE WORKERS	13	15	2	3	5
Janitors, Porters, & Cleaners	12	14	2	3	5
All Other Service Workers	1	1	0	0	0
TOTAL MAINTENANCE & PRODUCTION WORKERS	593	708	115	24	139
Mechanics, Aircraft	29	35	6	0	6
Mechanics, Automotive	10	12	2	0	2
Electric Meter Installers & Removers	7	8	1	0	1
Hydroelectric Machine Mechanics	4	5	1	0	1
Radio Mechanics	5	6	1	0	1
All Other Mechanics & Repairers	41	49	8	4	12
Truck Drivers	1	1	0	0	0
Truck Drivers, Heavy	52	62	10	4	14
Tractor-Trailer Truck Drivers	74	88	14	4	18
Cable Installers	31	37	6	0	6
Cable Repairers	4	5	1	0	1
Cable Splicers	3	4	1	0	1
Electricians	13	16	3	0	3
Auxiliary Equipment Operators	9	11	2	0	2
Supervisors, Nonworking	28	33	5	4	9
Frame Wires	2	2	0	0	0
Gas Compressor Operators	9	11	2	0	2
Ground Workers, Utilities	8	10	2	0	2
Heavy Equipment Operators	12	14	2	0	2
Inspectors	1	1	0	0	0
Instrument Repairers	3	4	1	0	1
Line Installers, Repairers	37	44	7	0	7
Line Installers, Repairers, Apprentice	8	10	2	0	2
Maintenance Repairers, General Utility	9	11	2	0	2
Helpers, Trades	16	19	3	0	3
Station Installers	4	5	1	0	1
Switchboard Operators, Generating Plant	28	33	5	0	5
Trouble Locators, Test Desk	1	1	0	0	0
Trouble Shooters, Power Line	5	6	1	0	1
Turbine Operators	10	11	1	0	1
Welders & Flamecutters	8	10	2	0	2
Surveyor Helpers	2	2	0	0	0
Dispatchers, Load	7	8	1	0	1
Truck Driver Helpers	15	18	3	0	3
All Other Skilled Craft Workers	48	57	9	4	13
All Other Operatives & Semiskilled Workers	37	44	7	4	11
All Other Laborers & Unskilled Workers	12	14	2	0	2

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

COCHISE COUNTY (Continued)

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL CLERICAL WORKERS	251	298	47	55	102
Computer Operators	7	8	1	0	1
All Other Office Machine Operators	6	7	1	0	1
Stenographers	1	1	0	0	0
Accounting Clerks	12	14	2	4	6
Bookkeepers, Hand	13	15	2	4	6
Cashiers	16	19	3	4	7
General Clerks, Office	44	52	8	12	20
Secretaries	22	26	4	7	11
Statistical Clerks	1	1	0	0	0
Switchboard Operators/Receptionists	2	2	0	0	0
Typists	15	18	3	4	7
Clerical Supervisors	2	2	0	0	0
Directory Assistance Operators	4	5	1	0	1
Central Office Operators	10	12	2	4	6
Customer Service Representatives	27	32	5	8	13
All Other Office Clerical Workers	8	9	1	0	1
Meter Readers, Utilities	12	14	2	0	2
Production Clerks &/or Coordinators	2	2	0	0	0
Stock Clerks	19	23	4	3	7
Dispatchers	8	9	1	0	1
All Other Plant Clerical Workers	20	24	4	5	9
TOTAL SALES WORKERS	19	23	4	4	8
Sales Agents, Associates, &/or Representatives	19	23	4	4	8
TOTAL ALL OCCUPATIONS	1,143	1,362	219	106	325

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

PROFESSIONAL WORKERS

All Other Professional Workers
Mathematical Scientists
Systems Analysts, Scientific & Technical
Accountants & Auditors
Broadcast News Analysts
Writers &/or Editors
Personnel & Labor Relations Specialists

TECHNICAL WORKERS

All Other Engineering Technicians
Computer Programmers, Scientific & Technical
Drafters

All Other Technical Workers
Radio Operators

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
Diesel Mechanics
Engineering Equipment Mechanics
Mechanics, Maintenance
Treatment Plant Mechanics

All Other Skilled Craft Workers
Central Office Repairers
Installers, Repairers, &/or Section Maintainers
Machinists
Sewage Plant Operators
Painters, Aircraft

MAINTENANCE & PRODUCTION WORKERS (Cont'd.)

All Other Operatives & Semiskilled Workers
Truck Drivers, Light
Delivery & Route Workers
Water Treatment Plant Operators
Line Service Attendants

All Other Laborers & Unskilled Workers
Cleaners, Vehicle
Refuse Collectors

CLERICAL WORKERS

All Other Office Machine Operators
Bookkeeping &/or Billing Machine Operators
Keypunch Operators

All Other Office Clerical Workers
File Clerks
Payroll &/or Timekeeping Clerks
Receptionists
Traffic Clerks

All Other Plant Clerical Workers
Shipping Packers
Shipping &/or Receiving Clerks

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

COCONINO COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	105	136	31	13	44
Managers & Officers	97	126	29	13	42
All Other Managers & Officers	8	10	2	0	2
TOTAL PROFESSIONAL WORKERS	79	103	24	1	25
Chemical Engineers	1	1	0	0	0
Electrical & Electronic Engineers	12	16	4	0	4
Industrial Engineers	1	1	0	0	0
Mechanical Engineers	3	4	1	0	1
All Other Engineers	12	16	4	0	4
Natural & Mathematical Scientists	5	7	2	0	2
Purchasing Agents &/or Buyers	2	3	1	0	1
Announcers	32	42	10	1	11
Broadcast News Analysts	5	7	2	0	2
Personnel & Labor Relations Specialists	2	3	1	0	1
Right-Of-Way Agents	1	1	0	0	0
All Other Professional Workers	3	4	1	0	1
TOTAL TECHNICAL WORKERS	61	79	18	0	18
Computer Programmers	1	1	0	0	0
Electric & Electronic Technicians	18	23	5	0	5
Surveyors	1	1	0	0	0
Estimators & Drafters, Utilities	3	4	1	0	1
All Other Engineering Technicians	5	6	1	0	1
Airplane Pilots	25	32	7	0	7
All Other Technical Workers	8	10	2	0	2
TOTAL SERVICE WORKERS	10	13	3	1	4
Janitors, Porters, & Cleaners	10	13	3	1	4
TOTAL MAINTENANCE & PRODUCTION WORKERS	1,097	1,432	335	84	419
Mechanics, Aircraft	7	9	2	0	2
Mechanics, Automotive	21	27	6	0	6
Electric Meter Installers	24	31	7	0	7
Engineering Equipment Mechanics	11	14	3	0	3
Hydroelectric Machinery Mechanics	14	18	4	0	4
Power Transformer Repairers	11	14	3	0	3
Radio Mechanics	8	10	2	0	2
All Other Mechanics & Repairers	145	189	44	12	56
Truck Drivers	12	16	4	0	4
Tractor-Trailer Truck Drivers	31	40	9	0	9
Bus Drivers	78	102	24	10	34
Cable Repairers	3	4	1	0	1
Cable Splicers	10	13	3	0	3
Carpenters	2	3	1	0	1
Control Room Operators, Steam	27	35	8	4	12
Corrosion Control Fitters	12	16	4	0	4
Diesel Plant Operators	4	5	1	0	1
Electricians	38	50	12	4	16
Supervisors, Nonworking	42	55	13	4	17
Frame Wires	2	3	1	0	1
Gas Pumping Station Operators	22	29	7	4	11
Ground Workers, Utilities	4	5	1	0	1
Heavy Equipment Operators	23	30	7	0	7
Installers, Repairers, &/or Section Maintainers	6	8	2	0	2
Line Installers, Repairers	65	85	20	4	24
Machinists	12	16	4	0	4
Helpers, Trades	60	78	18	7	25
Oilers	16	21	5	0	5

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

COCONINO COUNTY (Continued)

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
Painters, Maintenance	4	5	1	0	1
Station Installers	6	8	2	0	2
Substation Operators	10	13	3	0	3
Switchboard Operators, Generating Plant	3	4	1	0	1
Trouble Shooters, Test Desk	3	4	1	0	1
Trouble Shooters, Power Line	11	14	3	0	3
Turbine Operators	3	4	1	0	1
Welders & Flamecutters	1	1	0	0	0
Surveyor Helpers	1	1	0	0	0
Dispatchers, Load	7	9	2	0	2
Tree Trimmers	11	14	3	0	3
All Other Skilled Craft Workers	80	104	24	6	30
All Other Operatives & Semiskilled Workers	173	226	53	21	74
All Other Laborers & Unskilled Workers	74	97	23	8	31
TOTAL CLERICAL WORKERS	293	380	87	59	146
Computer Operators	1	1	0	0	0
All Other Office Machine Operators	2	3	1	0	1
Stenographers	1	1	0	0	0
Accounting Clerks	3	4	1	0	1
Bookkeepers, Hand	11	14	3	4	7
Collectors	1	1	0	0	0
General Clerks, Office	51	66	15	13	28
Payroll &/or Timekeeping Clerks	3	4	1	0	1
Personnel Clerks	1	1	0	0	0
Secretaries	17	22	5	4	9
Statistical Clerks	2	3	1	0	1
Ticket Agents	16	21	4	4	8
Directory Assistance Operators	5	8	2	4	6
Customer Service Representatives	33	43	10	8	18
All Other Office Clerical Workers	68	88	20	18	38
Meter Readers, Utilities	19	24	5	0	5
Production Clerks &/or Coordinators	4	5	1	0	1
Shipping &/or Receiving Clerks	8	10	2	0	2
Stock Clerks	15	19	4	0	4
Dispatchers, Vehicle, Service or Work	13	17	4	0	4
All Other Plant Clerical Workers	18	23	5	4	9
TOTAL SALES WORKERS	23	29	6	1	7
Sales Agents, Associates, &/or Representatives	16	20	4	1	5
All Other Sales Workers	7	9	2	0	2
TOTAL ALL OCCUPATIONS	1,668	2,172	504	159	663

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

TECHNICAL WORKERS

All Other Technical Workers
Broadcast Technicians

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
Household Appliance Repairers
Water Meter Installers

MAINTENANCE & PRODUCTION WORKERS (Cont'd.)

All Other Skilled Craft Workers
Central Office Repairers
Auxiliary Equipment Operators
Maintenance Repairers, General Utility
Taxi Drivers
Telegraph Plant Maintainers

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

COCONINO COUNTY (Continued)

MAINTENANCE & PRODUCTION WORKERS (Cont'd.)

All Other Operatives & Semiskilled Workers
Truck Drivers, Heavy
Truck Drivers, Light
Cable Installers
Crane, Derrick, & Hoist Operators
Delivery & Route Workers
Auxiliary Equipment Operators
Inspectors
Pipelayers
Line Service Attendants
Ambulance Drivers &/or Attendants
Motor Boat Operators

SALES WORKERS

All Other Sales Workers
Sales Clerks

CLERICAL WORKERS

All Other Office Machine Operators
Bookkeeper &/or Billing Machine Operators

All Other Office Clerical Workers
Cashiers
Order Clerks
Receptionists
Switchboard Operators
Switchboard Operators/Receptionists
Traffic Clerks
Typists
Clerical Supervisors
Central Office Operators

All Other Plant Clerical Workers
Dispatchers, Airplane
Transportation Agents

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

GILA COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	30	34	4	4	8
TOTAL PROFESSIONAL WORKERS	14	16	2	1	3
Electrical & Electronic Engineers	3	3	0	0	0
All Other Professional Workers	11	13	2	1	3
TOTAL TECHNICAL WORKERS	6	7	1	0	1
Estimators & Drafters, Utilities	2	2	0	0	0
All Other Engineering Technicians	4	5	1	0	1
TOTAL MAINTENANCE & PRODUCTION WORKERS	167	191	24	8	32
Mechanics, Automotive	1	1	0	0	0
Diesel Mechanics	5	6	1	0	1
Electric Meter Installers	3	3	0	0	0
Radio Mechanics	5	6	1	0	1
Tractor-Trailer Truck Drivers	60	69	9	4	13
Cable Installers	1	1	0	0	0
Cable Repairers	1	1	0	0	0
Cable Splicers	1	1	0	0	0
Central Office Repairers	3	3	0	0	0
Supervisors, Nonworking	10	11	1	0	1
Frame Wires	1	1	0	0	0
Heavy Equipment Operators	1	1	1	0	1
Line Installers, Repairers	15	17	2	0	2
Maintenance Repairers, General Utility	14	16	2	0	2
Station Installers	4	5	1	0	1
Trouble Locators, Test Desk	2	2	0	0	0
Trouble Shooters, Power Line	5	6	1	0	1
Tree Trimmers	2	2	0	0	0
All Other Skilled Craft Workers	4	4	0	0	0
All Other Operatives & Semiskilled Workers	27	31	4	4	8
All Other Laborers & Unskilled Workers	2	2	0	0	0
TOTAL CLERICAL WORKERS	82	94	12	12	24
Stenographers	1	1	0	0	0
General Clerks, Office	13	15	2	4	6
Secretaries	4	5	1	0	1
Statistical Clerks	1	1	0	0	0
Typists	2	2	0	0	0
Clerical Supervisors	2	2	0	0	0
Directory Assistance Operators	3	3	0	0	0
Customer Service Representatives	16	18	2	4	6
Central Office Operators	8	9	1	4	5
All Other Office Clerical Workers	8	9	1	0	1
Meter Readers, Utilities	14	16	2	0	2
Production Clerks &/or Coordinators	2	2	0	0	0
Shipping &/or Receiving Clerks	1	1	0	0	0
Stock Clerks	1	1	0	0	0
All Other Plant Clerical Workers	6	7	1	0	1
TOTAL SALES WORKERS	2	2	0	0	0
Sales Agents, Associates, &/or Representatives	2	2	0	0	0
TOTAL ALL OCCUPATIONS	301	344	43	25	68

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

GILA COUNTY (Continued)

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

PROFESSIONAL WORKERS

All Other Professional Workers
Announcers

TECHNICAL WORKERS

All Other Engineering Technicians
Electrical & Electronic Technician

MAINTENANCE & PRODUCTION WORKERS

All Other Skilled Craft Workers
Bus Drivers

All Other Operatives & Semiskilled Workers
Truck Drivers
Welders & Flamecutters
Truck Drivers, Light
Crane, Derrick, & Hoist Operators
Inspectors
Pipelayers
Taxi Drivers

CLERICAL WORKERS

All Other Office Clerical Workers
Accounting Clerks
Bookkeepers, Hand
Receptionists
Ticket Agents

All Other Plant Clerical Workers
Dispatchers, Vehicle, Service or Work

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

GRAHAM COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	11	13	2	0	2
TOTAL PROFESSIONAL WORKERS	9	11	2	0	2
TOTAL TECHNICAL WORKERS	3	4	1	0	1
Electrical & Electronic Technicians	3	4	1	0	1
TOTAL SERVICE WORKERS	1	1	0	0	0
TOTAL MAINTENANCE & PRODUCTION WORKERS	55	67	12	4	16
All Other Mechanics & Repairers	2	2	0	0	0
Tractor-Trailer Truck Drivers	6	7	1	0	1
Cable Splicers	1	1	0	0	0
Installers, Repairers, &/or Section Maintainers	2	2	0	0	0
Line Installers, Repairers	2	2	0	0	0
Helpers, Trades	2	2	0	0	0
Trouble Locators, Test Desk	1	1	0	0	0
Welders & Flamecutters	1	1	0	0	0
All Other Skilled Craft Workers	12	15	3	0	3
All Other Operatives & Semiskilled Workers	24	29	5	4	9
All Laborers & Unskilled Workers	2	2	0	0	0
TOTAL CLERICAL WORKERS	34	41	7	3	10
All Other Office Machine Operators	3	4	1	0	1
Bookkeepers, Hand	4	5	1	0	1
General Clerks, Office	5	6	1	0	1
Directory Assistance Operators	1	1	0	0	0
Central Office Operators	2	2	0	0	0
Customer Service Representatives	1	1	0	0	0
All Other Office Clerical Workers	8	10	2	3	5
Meter Readers, Utilities	8	10	2	0	2
All Other Plant Clerical Workers	2	2	0	0	0
TOTAL SALES WORKERS	2	2	0	0	0
TOTAL ALL OCCUPATIONS	115	139	24	7	31

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

PROFESSIONAL WORKERS

All Other Professional Workers
Accountants & Auditors
Announcers
Broadcast News Analysts

All Other Operatives & Semiskilled Workers (Cont'd.)
Heavy Equipment Operators
Inspectors
Truck Driver Helpers
Ambulance Drivers &/or Attendants

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
Electric Meter Installers
Water Meter Installers

All Other Skilled Craft Workers
Electricians
Supervisors, Nonworking
Maintenance Repairers, General Utility

All Other Laborers & Unskilled Workers
Ground Workers, Utilities

CLERICAL WORKERS

All Other Operatives & Semiskilled Workers
Truck Drivers
Truck Drivers, Heavy
Truck Drivers, Light

All Other Office Machine Operators
Bookkeeping &/or Billing Machine Operators

All Other Office Clerical Workers
Accounting Clerks
Cashiers
Collectors
Secretaries
Typists

All Other Plant Clerical Workers
Stock Clerks

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

GREENLEE COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	4	5	1	0	1
TOTAL PROFESSIONAL WORKERS	10	13	3	0	3
TOTAL SERVICE WORKERS	1	1	0	0	0
TOTAL MAINTENANCE & PRODUCTION WORKERS	20	25	5	0	5
Water Meter Installers	7	9	2	0	2
Installers, Repairers, &/or Section Maintainers	2	2	0	0	0
Line Installers, Repairers	8	10	2	0	2
All Other Semiskilled Workers	1	1	0	0	0
All Other Laborers & Unskilled Workers	2	2	0	0	0
TOTAL CLERICAL WORKERS	17	21	4	0	4
All Other Office Machine Operators	1	1	0	0	0
Accounting Clerks	1	1	0	0	0
General Clerks, Office	3	4	1	0	1
Typists	1	1	0	0	0
Directory Assistance Operators	1	1	0	0	0
Central Office Operators	2	2	0	0	0
All Other Office Clerical Workers	1	1	0	0	0
Meter Readers, Utilities	7	9	2	0	2
TOTAL SALES PERSONNEL	1	1	0	0	0
TOTAL ALL OCCUPATIONS	53	66	13	0	13

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

PROFESSIONAL WORKERS

All Other Professional Workers
Accountants & Auditors
Announcers

MAINTENANCE & PRODUCTION WORKERS

All Other Laborers & Unskilled Workers
Ground Workers, Utilities

CLERICAL WORKERS

All Other Office Machine Operators
Bookkeeping &/or Billing Machine Operators

All Other Clerical Workers
Bookkeepers, Hand

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

MARICOPA COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	2,169	2,532	363	272	635
TOTAL PROFESSIONAL WORKERS	2,422	2,844	422	211	633
Civil Engineers	11	13	2	0	2
Electrical & Electronic Engineers	541	635	94	24	118
Industrial Engineers	15	18	3	0	3
Mechanical Engineers	117	137	20	4	24
Nuclear Engineers	2	2	0	0	0
All Other Engineers	313	368	55	17	72
Mathematical Scientists	4	5	1	0	1
Systems Analysts, Electronic Data Processing	52	61	9	0	9
Teachers, Vocational Education or Training	62	73	11	11	22
Photographers	45	53	8	4	12
Television Camera Operators	46	54	8	8	12
Purchasing Agents &/or Buyers	29	34	5	4	9
Accountants & Auditors	130	153	23	20	43
Announcers	188	221	33	9	42
Broadcast News Analysts	71	83	12	4	16
Commercial Artists	8	9	1	0	1
Writers &/or Editors	37	43	6	8	14
Film Editors	15	17	2	4	6
Lawyers	8	9	1	0	1
Librarians, Professional	8	9	1	0	1
Personnel & Labor Relations Specialists	95	111	16	12	28
Public Relations Practitioners	14	16	2	3	5
Reporters & Correspondents	29	34	5	4	9
Technical Directors	8	9	1	0	1
Travel Agents	432	507	75	54	129
All Other Professional Workers	142	167	25	21	46
TOTAL TECHNICAL WORKERS	1,820	2,138	318	113	431
Computer Programmers	105	123	18	4	22
Drafters	38	45	7	4	11
Electrical & Electronic Technicians	618	726	108	29	137
Sound Recording & Reproduction Technicians	6	7	1	0	1
Broadcast Technicians	80	94	14	4	18
All Other Engineering Technicians	285	335	50	25	75
Airplane Pilots	288	338	50	12	62
All Other Technical Workers	400	470	70	35	105
TOTAL SERVICE WORKERS	566	662	96	111	207
Janitors, Porters, & Cleaners	105	123	18	16	34
Food Service Workers	17	20	3	4	7
Supervisors, Nonworking	62	73	11	4	15
All Other Service Workers	382	447	65	87	152
TOTAL MAINTENANCE & PRODUCTION WORKERS	13,159	15,409	2,250	947	3,197
Mechanics, Aircraft	247	289	42	18	60
Mechanics, Automotive	272	319	47	17	64
Mechanics, Automotive, Apprentice	9	10	1	0	1
Diesel Mechanics	311	364	53	20	73
Diesel Mechanics, Apprentice	9	11	2	0	2
Electric Meter Installers	98	115	17	4	21
Mechanics, Maintenance	15	18	3	0	3
Radio Mechanics	373	437	64	24	88
Water Meter Installers	33	39	6	0	6
All Other Mechanics & Repairers	36	42	6	4	10
Truck Drivers	320	375	55	18	73

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

MARICOPA COUNTY (Continued)

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
Truck Drivers, Heavy	591	692	101	33	134
Truck Drivers, Light	745	872	127	42	169
Tractor-Trailer Truck Drivers	2,058	2,410	352	114	466
Baggage Handlers	162	190	28	16	44
Bus Drivers	463	542	79	54	133
Cable Installers	238	279	41	7	48
Cable Splicers	172	201	29	4	33
Carpenters	10	12	2	0	2
Cleaners, Vehicle	157	184	27	8	35
Control Room Operators, Steam	45	53	8	7	15
Corrosion Control Fitters	33	39	6	4	10
Crane, Derrick, & Hoist Operators	6	7	1	0	1
Delivery & Route Workers	462	541	79	26	105
Diesel Plant Operators	49	57	8	8	16
Electricians	358	419	61	27	88
Electricians, Apprentice	11	13	2	0	2
Auxiliary Equipment Operators	64	75	11	8	19
Supervisors, Nonworking	977	1,144	167	77	244
Frame Wires	136	159	23	7	30
Gas Pumping Station Operators	6	7	1	0	1
Ground Workers, Utilities	67	78	11	12	23
Heavy Equipment Operators	157	184	27	11	38
Industrial Truck Operators	162	190	28	8	36
Inspectors	16	19	3	2	5
Line Installers, Repairers	304	356	52	12	64
Machinists	231	270	39	19	58
Maintenance Repairers, General Utility	66	77	11	4	15
Helpers, Trades	117	137	20	12	32
Oilers	7	8	1	0	1
Painters, Maintenance	29	34	5	4	9
Pipelayers	58	68	10	5	15
Plumbers &/or Pipefitters	27	32	5	3	8
Station Installers	303	355	52	13	65
Stationary Engineers	8	9	1	0	1
Substation Operators	28	33	5	0	5
Switchboard Operators, Generating Plant	28	33	5	0	5
Taxi Drivers	207	242	35	25	60
Trouble Locators, Test Desk	77	90	13	4	17
Trouble Shooters, Power Line	66	77	11	4	15
Turbine Operators	51	60	9	8	17
Water Treatment Plant Operators	14	16	2	0	2
Welders & Flamecutters	56	66	10	7	17
Fuel Pump Attendants &/or Lubricators	19	22	3	1	4
Tire Changers	10	12	2	0	2
Dispatchers, Load	32	37	5	4	9
Truck Driver Helpers	300	351	51	29	80
Line Service Attendants	197	231	34	22	56
Ambulance Drivers &/or Attendants	108	126	18	12	30
Tree Trimmers	21	25	4	3	7
All Other Skilled Craft Workers	564	778	114	48	162
All Other Operatives & Semiskilled Workers	418	489	71	46	117
All Other Laborers & Unskilled Workers	845	989	144	82	226
TOTAL CLERICAL WORKERS	8,674	10,094	1,420	1,913	3,333
Bookkeeping &/or Billing Machine Operators	67	78	11	16	27
Computer Operators	75	87	12	8	20
Keypunch Operators	132	154	22	35	57
Peripheral EDP Equipment Operators	39	45	6	11	17
All Other Office Machine Operators	38	44	6	12	18
Stenographers	65	76	11	16	27
Accounting Clerks	419	488	69	96	165

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

MARICOPA COUNTY (Continued)

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
Bookkeepers, Hand	131	152	21	30	51
Adjustment Clerks	25	29	4	6	10
Cashiers	66	77	11	16	27
Collectors	94	109	15	14	29
File Clerks	79	91	12	24	36
General Clerks, Office	916	1,066	150	224	374
Mail Clerks	71	83	12	12	24
Order Clerks	74	86	12	17	29
Payroll &/or Timekeeping Clerks	58	67	9	12	21
Personnel Clerks	25	29	4	8	12
Private Branch Service Advisors	25	29	4	6	10
Receptionists	86	100	14	27	41
Secretaries	646	752	106	179	285
Service Observers	31	36	5	9	14
Statistical Clerks	173	201	28	42	70
Switchboard Operators	61	71	10	20	30
Switchboard Operators/Receptionists	25	29	4	8	12
Messengers	5	6	1	0	1
Ticket Agents	426	496	70	61	131
Traffic Clerks	41	48	7	10	17
Typists	348	405	57	106	163
Clerical Supervisors	342	398	56	43	99
Directory Assistance Operators	308	358	50	98	148
Central Office Operators	727	846	119	230	349
Customer Service Representatives	854	994	140	208	348
All Other Office Clerical Workers	564	656	92	137	229
Meter Readers, Utilities	364	424	60	19	79
Production Clerks &/or Coordinators	117	136	19	12	31
Shipping Packers	43	50	7	4	11
Shipping &/or Receiving Clerks	132	154	22	12	34
Stock Clerks	208	242	34	23	57
Transportation Agents	268	312	44	39	82
Dispatchers, Vehicle, Service or Work	404	470	66	44	110
Dispatchers, Police, Fire, & Ambulance	5	6	1		1
Manifest Clerks	8	9	1		1
Rate Clerks, Freight	36	42	6	8	14
All Other Plant Clerical Workers	53	62	9	12	21
TOTAL SALES WORKERS	766	895	129	101	230
Sales Agents, Associates, &/or Representatives	428	500	72	48	120
Crating & Moving Estimators	35	41	6	7	13
Traffic Agents	189	221	32	27	59
All Other Sales Agents, Associates, &/or Representatives	109	127	18	19	37
Sales Clerks	5	6	1	0	1
TOTAL ALL OCCUPATIONS	29,576	34,574	4,998	3,668	8,666

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

PROFESSIONAL WORKERS

All Other Engineers
Engineers
Aeronautical Engineers
Chemical Engineers

All Other Professional Workers
Natural & Mathematical Scientists
Chemists
Right-of-Way Agents

TECHNICAL WORKERS

All Other Engineering Technicians
Surveyors
Video Recording Engineers
Light Technicians
Estimators & Drafters, Utilities

All Other Technical Workers
Science Technicians
Flight Engineers
Radio Operators
Emergency Medical Technicians

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

MARICOPA COUNTY, (Continued)

SERVICE WORKERS

All Other Service Workers
Guards & Doorkeepers
Flight Attendants
Guides, Travel
Baggage Porters

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
Body Repairers, Automotive
Hydroelectric Machine Mechanics
Marine Mechanics &/or Repairers
Treatment Plant Mechanics
Electronic Mechanics

All Other Skilled Craft Workers
Central Office Repairers
Installers, Repairers, &/or Section Maintainers
Instrument Repairers
Station Engineers, Main Line
Telegraph Equipment Maintainers
Telegraph Plant Maintainers
Painters, Aircraft

MAINTENANCE & PRODUCTION WORKERS (Cont'd.)

All Other Operatives & Semiskilled Workers
Cable Repairers
Pipe Wrapping Machine Operators
Watershed Tenders
Pump Station Operators, Waterworks
Surveyor Helpers
Boat Patchers, Plastics
Pipelayers
Locker Plant Attendants
Chauffeurs

All Other Laborers & Unskilled Workers
Refuse Collectors

CLERICAL WORKERS

All Other Office Clerical Workers
Reservation Agents
Claim Adjusters
Information Clerks
Procurement Clerks
Service Clerks
Telegraph Operators

All Other Plant Clerical Workers
Dispatchers, Airplane
Crew Schedulers
Weather Clerks

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

MOHAVE COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	68	75	7	8	15
Managers & Officers	65	72	7	8	15
All Other Managers & Officers	3	3	0	0	0
TOTAL PROFESSIONAL WORKERS	54	60	6	4	10
Civil Engineers	22	24	2	4	6
Electrical & Electronic Engineers	3	3	0	0	0
Industrial Engineers	3	3	0	0	0
Purchasing Agents &/or Buyers	2	2	0	0	0
Announcers	13	14	1	0	1
Personnel & Labor Relations Specialists	1	1	0	0	0
All Other Professional Workers	10	11	1	0	1
TOTAL TECHNICAL WORKERS	43	48	5	0	5
Computer Programmers	4	4	0	0	0
Drafters	8	9	1	0	1
Electrical & Electronic Technicians	12	13	1	0	1
Estimators & Drafters, Utilities	2	2	0	0	0
All Other Engineering Technicians	8	9	1	0	1
All Other Technical Workers	9	10	1	0	1
TOTAL SERVICE WORKERS	12	13	1	4	5
TOTAL MAINTENANCE & PRODUCTION WORKERS	343	380	37	16	53
Electric Meter Installers	3	3	0	0	0
Hydroelectric Machinery Mechanics	1	1	0	0	0
Household Appliance Repairers	3	3	0	0	0
All Other Mechanics & Repairers	10	11	1	0	1
Truck Drivers, Light	34	38	4	0	4
Tractor-Trailer Truck Drivers	31	34	3	0	3
Cable Splicers	11	12	1	0	1
Electricians	1	1	0	0	0
Supervisors, Nonworking	15	17	2	0	2
Gas Compressor Operators	1	1	0	0	0
Ground Workers, Utilities	12	13	1	0	1
Instrument Repairers	1	1	0	0	0
Line Installers, Repairers	33	37	4	0	4
Line Installers, Repairers, Apprentice	8	9	1	0	1
Maintenance Repairers, General Utilities	3	3	0	0	0
Helpers, Trade	3	3	0	0	0
Trouble Shooters, Power Line	1	1	0	0	0
Welders & Flamecutters	1	1	0	0	0
All Other Skilled Craft Workers	73	81	8	4	12
All Other Operatives & Semiskilled Workers	69	76	7	8	15
All Other Laborers & Unskilled Workers	29	32	3	4	7
TOTAL CLERICAL WORKERS	241	265	24	50	74
Computer Operators	4	4	0	0	0
Keypunch Operators	3	3	0	0	0
Peripheral EDP Equipment Operators	1	1	0	0	0
All Other Office Machine Operators	1	1	0	0	0
Bookkeepers, Hand	3	3	0	0	0
Cashiers	14	15	1	4	5
Collectors	3	3	0	0	0
General Clerks, Office	36	40	4	8	12
Payroll &/or Timekeeping Clerks	1	1	0	0	0
Secretaries	21	23	2	6	8
Typists	8	9	1	4	5
Clerical Supervisors	5	5	0	0	0

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

MOHAVE COUNTY (Continued)

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
Customer Service Representatives	18	20	2	4	6
All Other Office Clerical Workers	70	77	7	16	23
Meter Readers, Utilities	13	14	1	0	1
Stock Clerks	7	8	1	0	1
All Other Plant Clerical Workers	33	36	3	8	11
TOTAL SALES WORKERS	11	12	1	0	1
Sales Agents, Associates, &/or Representatives	8	9	1	0	1
All Other Sales Workers	3	3	0	0	0
TOTAL ALL OCCUPATIONS	772	853	81	82	163

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

MANAGERS & OFFICERS

All Other Managers & Officers
Captains, Water Vessel

PROFESSIONAL WORKERS

All Other Professional Workers
Accountants & Auditors
Broadcast News Analysts
Travel Agents

TECHNICAL WORKERS

All Other Technical Workers
Airplane Pilots
Radio Operators

SERVICE WORKERS

All Other Service Workers
Janitors, Porters, & Cleaners
Guards & Doorkeepers

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
Mechanics, Aircraft
Mechanics, Automotive
Treatment Plant Mechanics

All Other Skilled Craft Workers
Central Office Repairers
Plumbers &/or Pipefitters
Water Treatment Plant Operators

MAINTENANCE & PRODUCTION WORKERS (Cont'd.)

All Other Operatives & Semiskilled Workers
Truck Drivers, Heavy
Marine Service Station Attendants
Pipelayers
Line Service Attendants
Ambulance Drivers &/or Attendants

All Other Laborers & Unskilled Workers
Refuse Collectors

CLERICAL WORKERS

All Other Office Clerical Workers
Accounting Clerks
Reservation Agents
Adjustment Clerks
Switchboard Operators

All Other Plant Clerical Workers
Shipping Packers
Rate Clerks, Freight

SALES WORKERS

All Other Sales Workers
Crating & Moving Estimators

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

NAVAJO COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	62	68	6	8	14
TOTAL PROFESSIONAL WORKERS	31	34	3	0	3
Electrical & Electronic Engineers	4	4	0	0	0
Mechanical Engineers	1	1	0	0	0
All Other Engineers	3	3	0	0	0
Purchasing Agents &/or Buyers	1	1	0	0	0
Announcers	13	14	1	0	1
Personnel & Labor Relations Specialists	2	2	0	0	0
Right-of-Way Agents	1	1	0	0	0
All Other Professional Workers	6	7	1	0	1
TOTAL TECHNICAL WORKERS	32	35	3	0	3
Drafters	1	1	0	0	0
Surveyors	2	2	0	0	0
Estimators & Drafters, Utilities	3	3	0	0	0
All Other Engineering Technicians	15	16	1	0	1
Airplane Pilots	10	11	1	0	1
All Other Technical Workers	1	1	0	0	0
TOTAL SERVICE WORKERS	2	2	0	0	0
TOTAL MAINTENANCE & PRODUCTION WORKERS	505	554	49	24	73
Mechanics, Automotive	7	8	1	0	1
Mechanics, Automotive, Apprentice	1	1	0	0	0
Electric Meter Installers	1	1	0	0	0
Hydroelectric Machinery Mechanics	1	1	0	0	0
Mechanics, Maintenance	4	4	0	0	0
Household Appliance Repairers	3	3	0	0	0
All Other Mechanics & Repairers	4	4	0	0	0
Truck Drivers	8	9	1	0	1
Control Room Operators, Steam	10	11	1	0	1
Corrosion Control Fitters	1	1	0	0	0
Crane, Derrick, & Hoist Operators	1	1	0	0	0
Electricians	21	23	2	0	2
Electricians, Apprentice	6	7	1	0	1
Auxiliary Equipment Operators	28	31	3	4	7
Supervisors, Nonworking	41	45	4	4	8
Gas Compressor Operators	1	1	0	0	0
Ground Workers, Utilities	6	7	1	0	1
Heavy Equipment Operators	11	12	1	0	1
Inspectors	4	4	0	0	0
Instrument Repairers	8	9	1	0	1
Instrument Repairers, Apprentice	6	7	1	0	1
Line Installers, Repairers	40	44	4	0	4
Line Installers, Repairers, Apprentice	4	4	0	0	0
Machinists	8	9	1	0	1
Machinists, Apprentice	7	8	1	0	1
Maintenance Repairers, General Utility	18	20	2	0	2
Oilers	1	1	0	0	0
Painters, Maintenance	1	1	0	0	0
Plumbers &/or Pipefitters	2	2	0	0	0
Station Engineers, Main Line	7	8	1	0	1
Station Installers	42	46	4	0	4
Trouble Shooters, Power Line	8	9	1	0	1
Welders & Flamecutters	11	12	1	0	1
Surveyor Helpers	1	1	0	0	0
Pipelayers	5	5	0	0	0
Tree Trimmers	2	2	0	0	0
All Other Skilled Craft Workers	56	61	5	4	9

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

NAVAJO COUNTY (Continued)

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
All Other Operatives & Semiskilled Workers	83	91	8	8	16
All Other Laborers & Unskilled Workers	36	39	3	4	7
TOTAL CLERICAL WORKERS	275	299	24	58	82
Keypunch Operators	1	1	0	0	0
All Other Office Machine Operators	1	1	0	0	0
Accounting Clerks	1	1	0	0	0
Cashiers	4	4	0	0	0
Collectors	1	1	0	0	0
File Clerks	1	1	0	0	0
General Clerks, Office	33	36	3	8	11
Secretaries	25	27	2	8	10
Statistical Clerks	5	5	0	0	0
Switchboard Operators/Receptionists	1	1	0	0	0
Typists	4	4	0	0	0
Clerical Supervisors	2	2	0	0	0
Directory Assistance Operators	1	1	0	0	0
Central Office Operators	71	77	6	22	28
Customer Service Representatives	71	77	6	16	22
All Other Office Clerical Workers	9	10	1	0	1
Meter Readers, Utilities	13	14	1	0	1
Shipping &/or Receiving Clerks	2	2	0	0	0
Stock Clerks	8	9	1	0	1
Dispatchers, Vehicle, Service or Work	1	1	0	0	0
All Other Plant Clerical Workers	20	22	2	4	6
TOTAL SALES WORKERS	2	2	0	0	0
TOTAL ALL OCCUPATIONS	909	994	85	90	175

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

PROFESSIONAL WORKERS

All Other Professional Workers
Accountants & Auditors
Librarians, Professional

TECHNICAL WORKERS

All Other Engineering Technicians
Electrical & Electronic Technicians
Broadcast Technicians

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
Mechanics, Aircraft
Diesel Mechanics

All Other Skilled Craft Workers
Bus Drivers
Central Office Repairers
Installers, Repairers, &/or Section Maintainers

MAINTENANCE & PRODUCTION WORKERS (Cont'd.)

All Other Operatives & Semiskilled Workers
Truck Drivers, Heavy
Truck Drivers, Light
Tractor-Trailer Truck Drivers
Cable Installers
Cable Repairers
Delivery & Route Workers
Industrial Truck Operators

All Other Laborers & Unskilled Workers
Cleaners, Vehicle
Helpers, Trades
Ambulance Drivers &/or Attendants

Clerical Workers

All Other Office Clerical Workers
Bookkeepers, Hand
Traffic Clerks

All Other Plant Clerical Workers
Shipping Packers

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

PIMA COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	562	647	85	70	155
TOTAL PROFESSIONAL WORKERS	820	950	130	74	204
Electrical & Electronic Engineers	176	204	28	8	36
All Other Engineers	55	64	9	4	13
Systems Analysts, Electronic Data Processing	16	18	2	0	2
Teachers, Vocational Education & Training	13	15	2	4	6
Photographers	18	21	3	0	3
Television Camera Operators	30	35	5	4	9
Purchasing Agents &/or Buyers	15	17	2	0	2
Accountants & Auditors	66	76	10	9	19
Announcers	111	128	17	4	21
Broadcast News Analysts	42	48	6	4	10
Commercial Artists	5	6	1	0	1
Writers &/or Editors	21	24	3	4	7
Film Editors	18	21	3	4	7
Librarians, Professional	5	6	1	0	1
Personnel & Labor Relations Specialists	25	29	4	4	8
Public Relations Practitioners	5	6	1	0	1
Reporters & Correspondents	29	33	4	4	8
Travel Agents &/or Travel Accommodations Appraisers	139	161	22	17	39
All Other Professional Workers	31	36	5	4	9
TOTAL TECHNICAL WORKERS	307	356	49	16	65
Drafters	33	38	5	4	9
Electrical & Electronic Technicians	93	108	15	4	19
Broadcast Technicians	37	43	6	0	6
All Other Engineering Technicians	84	97	13	8	21
Airplane Pilots	45	52	7	0	7
All Other Technical Workers	15	17	2	0	2
TOTAL SERVICE WORKERS	82	95	13	16	29
Janitors, Porters, & Cleaners	46	53	7	8	15
All Other Service Workers	36	42	6	8	14
TOTAL MAINTENANCE & PRODUCTION WORKERS	3,310	3,827	517	243	760
Mechanics, Aircraft	103	119	16	4	20
Mechanics, Automotive	41	47	6	4	10
Diesel Mechanics	24	28	4	0	4
Radio Mechanics	133	154	21	8	29
All Other Mechanics & Repairers	78	90	12	4	16
Truck Drivers	35	40	5	0	5
Truck Drivers, Heavy	212	245	33	12	45
Truck Drivers, Light	123	142	19	8	27
Tractor-Trailer Truck Drivers	201	232	31	12	43
Bus Drivers	128	148	20	15	35
Cable Installers	34	39	5	0	5
Cable Repairers	30	34	4	0	4
Delivery & Route Workers	53	61	8	4	12
Electricians	37	43	6	4	10
Supervisors, Nonworking	298	344	46	24	70
Frame Wires	37	43	6	0	6
Heavy Equipment Operators	44	51	7	4	11
Industrial Truck Operators	18	21	3	0	3
Inspectors	10	11	1	0	1
Installers, Repairers, &/or Section Maintainers	23	26	3	0	3

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

PIMA COUNTY (Continued)

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
Line Installers, Repairers	76	88	12	4	16
Line Installers, Repairers, Apprentice	11	13	2	0	2
Maintenance Repairers, General Utility	16	18	2	0	2
Helpers, Trades	77	89	12	8	20
Station Installers	111	128	17	4	21
Trouble Locators, Test Desk	30	34	4	0	4
Fuel Pump Attendants &/or Lubricators	8	9	1	0	1
Truck Driver Helpers	121	140	19	12	31
Line Service Attendants	96	111	15	11	26
All Other Skilled Craft Workers	410	474	64	29	93
All Other Operatives Semiskilled Workers	579	554	75	52	127
All Other Laborers & Unskilled Workers	213	246	33	20	53
TOTAL CLERICAL WORKERS	2,287	2,628	341	502	843
Bookkeeping &/or Billing Machine Operators	29	33	4	8	12
Computer Operators	12	14	2	0	2
Key Punch Operators	22	25	3	5	8
All Other Office Machine Operators	8	9	1	4	5
Stenographers	49	56	7	12	19
Accounting Clerks	74	85	11	16	27
Bookkeepers, Hand	39	45	6	8	14
Adjustment Clerks	6	7	1	0	1
Cashiers	23	26	3	4	7
File Clerks	41	47	6	12	18
General Clerks, Office	321	369	48	77	125
Payroll &/or Timekeeping Clerks	10	11	1	0	1
Personnel Clerks	4	4	0	0	0
Receptionists	25	29	4	8	12
Secretaries	87	100	13	24	37
Switchboard Operators	17	19	2	5	7
Switchboard Operators/Receptionists	6	7	1	0	1
Ticket Agents	150	172	22	21	43
Traffic Clerks	22	25	3	4	7
Typists	83	95	12	25	37
Clerical Supervisors	111	127	16	13	29
Directory Assistance Operators	102	117	15	32	47
Central Office Operators	291	334	43	91	134
Customer Service Representatives	202	232	30	49	79
All Other Office Clerical Workers	146	168	22	35	57
Meter Readers, Utilities	53	61	8	4	12
Production Clerks &/or Coordinators	66	76	10	8	18
Shipping Packers	10	11	1	0	1
Shipping &/or Receiving Clerks	8	9	1	0	1
Stock Clerks	49	56	7	4	11
Dispatchers, Airplane	18	20	2	0	2
Transportation Agents	78	89	11	12	23
Dispatchers, Vehicle, Service or Work	55	64	8	6	14
Rate Clerks, Freight	9	10	1	0	1
All Other Plant Clerical Workers	60	69	9	15	24
TOTAL SALES WORKERS	170	196	26	22	48
Sales Agents, Associates, &/or Representatives	126	145	19	14	33
Crating & Moving Estimators	16	18	2	4	6
Traffic Agents	17	19	2	4	6
All Other Sales Agents, Associates, &/or Representatives	5	9	1	0	1
All Other Sales Workers	3	3	0	0	0
TOTAL ALL OCCUPATIONS	7,538	8,699	1,161	943	2,104

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

PIMA COUNTY (Continued)

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

PROFESSIONAL WORKERS

- All Other Engineers
 - Aeronautical Engineers
 - Chemical Engineers
 - Civil Engineers
 - Industrial Engineers
 - Mechanical Engineers
- All Other Professional Workers
 - Natural & Mathematical Scientists
 - Mathematical Scientists
 - Systems Analysts, Scientific & Technical
 - Lawyers
 - Right-of-Way Agents
 - Technical Directors

TECHNICAL WORKERS

- All Other Engineering Technicians
 - Computer Programmers
 - Computer Programmers, Scientific & Technical
 - Surveyors
 - Estimators & Drafters, Utilities
 - Light Technicians
- All Other Technical Workers
 - Flight Engineers
 - Radio Operators

SERVICE WORKERS

- All Other Service Workers
 - Guards & Doorkeepers
 - Flight Attendants
 - Supervisors, Nonworking
 - Guides, Travel

MAINTENANCE & PRODUCTION WORKERS

- All Other Mechanics & Repairers
 - Electric Meter Installers
 - Engineering Equipment Mechanics
 - Hydroelectric Machinery Mechanics
 - Power Transformer Repairers
 - Mechanics, Maintenance
 - Water Meter Installers
- All Other Skilled Craft Workers
 - Automatic Maintainers
 - Cable Splicers
 - Carpenters
 - Central Office Repairers
 - Corrosion Control Fitters
 - Auxiliary Equipment Operators
 - Gas Pumping Station Operators
 - Instrument Repairers
 - Machinists
 - Painters, Automotive
 - Plumbers &/or Pipefitters
 - Sewage Plant Operators

MAINTENANCE & PRODUCTION WORKERS (Cont'd.)

- Stationary Engineers
- Street Light Repairers & Servicemen
- Substation Operators
- Switchboard Operators, Generating Plant
- Telegraph Plant Maintainers
- Trouble Shooters, Power Lines
- Turbine Operators
- Bus Drivers, School
- All Other Operatives & Semiskilled Workers
 - Crane, Derrick, Hoist Operators
 - Craters
 - Pipelayers
 - Stationary Boiler Firers
 - Taxi Drivers
 - Welders & Flamecutters
 - Tire Changers
 - Surveyor Helpers
 - Ambulance Drivers &/or Attendants
- All Other Laborers & Unskilled Workers
 - Baggage Handlers
 - Cleaners, Vehicle
 - Ground Workers, Utilities
 - Oilers
 - Painters, Maintenance
 - Refuse Collectors

CLERICAL WORKERS

- All Other Office Machine Operators
 - Peripheral EDP Equipment Operators
- All Other Clerical Workers
 - Reservation Agents
 - Collectors
 - Mail Clerks
 - Order Clerks
 - Private Branch Service Advisors
 - Service Observers
 - Statistical Clerks
 - Script Clerks
- All Other Plant Clerical Workers
 - Crew Schedulers
 - Dispatchers, Police, Fire, & Ambulance

SALES WORKERS

- All Other Sales Workers
 - Sales Clerks

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

PINAL COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	50	57	7	7	0
TOTAL PROFESSIONAL WORKERS	37	42	5	4	9
Electrical & Electronic Engineers	5	6	1	0	1
Mechanical Engineers	5	6	1	0	1
Purchasing Agents &/or Buyers	3	3	0	0	0
Personnel & Labor Relations Specialists	1	1	0	0	0
All Other Professional Workers	23	27	4	4	8
TOTAL TECHNICAL WORKERS	30	34	4	0	4
Drafters	3	3	0	0	0
Estimators & Drafters, Utilities	3	3	0	0	0
Surveyors	1	1	0	0	0
All Other Engineering Technicians	1	1	0	0	0
Flight Engineers	1	1	0	0	0
Airplane Pilots	4	5	1	0	1
All Other Technical Workers	17	19	2	0	2
TOTAL SERVICE WORKERS	23	26	3	0	3
Janitors, Porters, & Cleaners	10	11	1	0	1
Guards & Doorkeepers	4	5	1	0	1
Food Service Workers	8	9	1	0	1
Supervisors, Nonworking	1	1	0	0	0
TOTAL MAINTENANCE & PRODUCTION WORKERS	418	480	62	17	79
Mechanics, Aircraft	45	52	7	1	8
Mechanics, Aircraft, Apprentice	4	5	1	0	1
Mechanics, Automotive	1	13	2	0	2
Diesel Mechanics	6	7	1	0	1
Electric Meter Installers	4	5	1	0	1
Hydroelectric Machinery Mechanics	2	2	0	0	0
Radio Mechanics	15	17	2	0	2
Refrigeration Mechanics, Air Conditioning	1	1	0	0	0
Refrigeration Mechanics, Air Conditioning, Apprentice	1	1	0	0	0
Electronic Mechanics	9	10	1	0	1
Electronic Mechanics, Apprentice	2	2	0	0	0
Truck Drivers, Heavy	5	6	1	0	1
Truck Drivers, Light	1	1	0	0	0
Tractor-Trailer Truck Drivers	20	23	3	0	3
Cable Installers	2	2	0	0	0
Cable Repairers	3	3	0	0	0
Cable Splicers	1	1	0	0	0
Carpenters	2	2	0	0	0
Carpenters, Apprentice	1	1	0	0	0
Central Office Repairers	3	3	0	0	0
Supervisors, Nonworking	14	16	2	0	2
Frame Wires	1	1	0	0	0
Gas Compressor Operators	3	3	0	0	0
Ground Workers, Utilities	1	1	0	0	0
Industrial Truck Operators	12	14	2	0	2
Instrument Repairers	3	3	0	0	0
Line Installers, Repairers	15	17	2	0	2
Machinists	1	1	0	0	0
Helpers, Trades	1	1	0	0	0
Plumbers &/or Pipefitters	1	1	0	0	0
Station Installers	4	5	1	0	1
Stationary Engineers	3	3	0	0	0
Trouble Locators, Test Desk	2	2	0	0	0

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

PINAL COUNTY (Continued)

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
Trouble Shooters, Power Line	21	24	3	0	3
Welders & Flamecutters	8	9	1	0	1
Dispatchers, Load	1	1	0	0	0
Painters, Aircraft	6	7	1	0	1
Painters, Aircraft, Apprentice	2	2	0	0	0
All Other Skilled Craft Workers	68	78	10	4	14
All Other Operatives & Semiskilled Workers	86	99	13	8	21
All Other Laborers & Unskilled Workers	27	31	4	4	8
TOTAL CLERICAL WORKERS	162	185	23	28	51
All Other Office Machine Operators	1	1	0	0	0
Stenographers	1	1	0	0	0
Accounting Clerks	3	3	0	0	0
General Clerks, Office	33	38	5	8	13
Personnel Clerks	1	1	0	0	0
Secretaries	9	10	1	4	5
Statistical Clerks	1	1	0	0	0
Typists	6	7	1	0	1
Clerical Supervisors	2	2	0	0	0
Directory Assistance Operators	3	3	0	0	0
Customer Service Representatives	46	52	6	12	18
All Other Office Clerical Workers	18	20	2	4	6
Meter Readers, Utilities	15	17	2	0	2
Shipping Packers	3	3	0	0	0
Shipping &/or Receiving Clerks	8	9	1	0	1
Stock Clerks	3	3	0	0	0
Dispatchers, Vehicle, Service or Work	4	5	1	0	1
All Other Plant Clerical Workers	5	6	1	0	1
TOTAL SALES WORKERS	5	6	1	0	1
Sales Agents, Associates, &/or Representatives	5	6	1	0	1
TOTAL ALL OCCUPATIONS	725	830	105	56	147

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

PROFESSIONAL WORKERS

All Other Professional Workers
Accountants & Auditors
Announcers
Broadcast News Analysts
Travel Agents &/or Travel Accommodations Appraisers

TECHNICAL WORKERS

All Other Engineering Technicians
Electrical & Electronic Technicians

MAINTENANCE & PRODUCTION WORKERS

All Other Skilled Craft Workers
Installers, Repairers, &/or Section Maintainers
Maintenance Repairers, General Utility
Sewage Plant Operators
Telegraph Plant Maintainers

MAINTENANCE & PRODUCTION WORKERS (Cont'd.)

All Other Operatives & Semiskilled Workers
Truck Drivers
Delivery & Route Workers
Ambulance Drivers &/or Attendants
All Other Laborers & Unskilled Workers
Refuse Collectors

CLERICAL WORKERS

All Other Office Clerical Workers
Bookkeepers, Hand
Central Office Operators
All Other Plant Clerical Workers
Production Clerks &/or Coordinators

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

SANTA CRUZ COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	47	54	7	6	13
TOTAL PROFESSIONAL WORKERS	38	44	6	4	10
Purchasing Agents &/or Buyers	1	1	0	0	0
Accountants & Auditors	5	6	1	0	1
Travel Agents &/or Travel Accomodations					
Appraisers	13	15	2	0	2
All Other Professional Workers	19	22	3	4	7
TOTAL SERVICE WORKERS	3	3	0	0	0
TOTAL MAINTENANCE & PRODUCTION WORKERS	260	299	39	14	53
Diesel Mechanics	14	16	2	0	2
Electric Meter Installers	2	2	0	0	0
Radio Mechanics	1	1	0	0	0
All Other Mechanics & Repairers	1	1	0	0	0
Tractor-Trailer Truck Drivers	19	22	3	0	3
Cable Splicers	2	2	0	0	0
Central Office Repairers	3	3	0	0	0
Cleaners, Vehicle	6	7	1	0	1
Delivery & Route Workers	6	7	1	0	1
Supervisors, Nonworking	11	12	1	0	1
Frame Wiers	1	1	0	0	0
Gas Pumping Station Operators	4	5	1	0	1
Installers, Repairers, &/or Section					
Maintainers	4	5	1	0	1
Line Installers, Repairers	8	9	1	0	1
Helpers, Trades	2	2	0	0	0
Pipelayers	6	7	1	0	1
Sewage Plant Operators	1	1	0	0	0
Station Installers	2	2	0	0	0
Pump Station Operators, Waterworks	1	1	0	0	0
All Other Skilled Craft Workers	26	30	4	0	4
All Other Operatives & Semiskilled					
Workers	35	40	5	4	9
All Other Laborers & Unskilled Workers	105	121	16	10	26
TOTAL CLERICAL WORKERS	160	183	23	32	55
Computer Operators	1	1	0	0	0
Keypunch Operators	2	2	0	0	0
All Other Office Machine Operators	5	6	1	0	1
File Clerks	1	1	0	0	0
General Clerks, Office	39	44	5	8	13
Payroll &/or Timekeeping Clerks	1	1	0	0	0
Secretaries	8	9	1	4	5
Typists	30	34	4	8	12
Directory Assistance Operators	3	3	0	0	0
Central Office Operators	4	5	1	0	1
Customer Service Representatives	2	2	0	0	0
All Other Office Clerical Workers	53	60	7	12	19
Meter Readers, Utilities	3	3	0	0	0
Dispatchers, Vehicle, Service or Work	5	6	1	0	1
All Other Plant Clerical Workers	3	3	0	0	0
TOTAL SALES WORKERS	6	7	1	0	1
Sales Agents, Associates,					
&/or Representatives	2	2	0	0	0
All Other Sales Workers	4	5	1	0	1
TOTAL ALL OCCUPATIONS	514	590	76	56	132

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

SANTA CRUZ COUNTY (Continued)

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

PROFESSIONAL WORKERS

All Other Professional Workers
Electrical & Electronic Engineers
Announcers

SERVICE WORKERS

All Other Service Workers
Janitors, Porters, & Cleaners
Guards & Doorkeepers

MAINTENANCE & PRODUCTION WORKERS

All Other Skilled Craft Workers
Stationary Engineers

All Other Operatives & Semiskilled Workers
Truck Drivers, Heavy
Truck Drivers, Light
Cable Installers
Taxi Drivers
Locker Plant Attendants

CLERICAL WORKERS

All Other Office Machine Operators
Bookkeeping &/or Billing Machine Operators

All Other Clerical Workers
Accounting Clerks
Bookkeepers, Hand
Cashiers
Messengers
Clerical Supervisors

All Other Plant Clerical Workers
Shipping &/or Receiving Clerks
Stock Clerks

SALES WORKERS

All Other Sales Workers
Traffic Agents

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

YAVAPAI COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	62	68	6	8	14
TOTAL PROFESSIONAL WORKERS	32	36	4	0	4
Electrical & Electronic Engineers	9	10	1	0	1
All Other Engineers	1	1	0	0	0
Announcers	11	12	1	0	1
Right-of-Way Agents	1	1	0	0	0
Travel Agents &/or Travel Accomodations					
Appraisers	8	9	1	0	1
All Other Professional Workers	2	2	0	0	0
TOTAL TECHNICAL WORKERS	22	24	2	0	2
Surveyors	1	1	0	0	0
Estimators & Drafters, Utilities	6	7	1	0	1
All Other Engineering Technicians	10	11	1	0	1
All Other Technical Workers	5	5	0	0	0
TOTAL MAINTENANCE & PRODUCTION WORKERS	401	444	43	19	62
Mechanics, Automotive	10	11	1	0	1
Diesel Mechanics	3	3	0	0	0
Hydroelectric Machinery Mechanics	9	10	1	0	1
Radio Mechanics	12	13	1	0	1
Household Appliance Repairers	8	9	1	0	1
All Other Mechanics & Repairers	14	16	2	0	2
Truck Drivers, Heavy	97	107	10	4	14
Tractor-Trailer Truck Drivers	34	38	4	0	4
Cable Splicers	4	4	0	0	0
Crane, Derrick, & Hoist Operators	3	3	0	0	0
Supervisors, Nonworking	23	25	2	0	2
Frame Wriers	3	3	0	0	0
Gas Compressor Operators	1	1	0	0	0
Ground Workers, Utilities	1	1	0	0	0
Installers, Repairers, &/or Section					
Maintainers	6	7	1	0	1
Maintenance Repairers, General Utility	10	11	1	0	1
Station Installers	11	12	1	0	1
Trouble Locators, Test Desk	4	4	0	0	0
Surveyor Helpers	1	1	0	0	0
Dispatchers, Load	1	1	0	0	0
Truck Driver Helpers	12	13	1	0	1
Tree Trimmers	3	3	0	0	0
All Other Skilled Craft Workers	51	56	5	4	9
All Other Operatives & Semiskilled					
Workers	58	64	6	7	13
All Other Laborers & Unskilled Workers	22	24	2	4	6
TOTAL CLERICAL WORKERS	195	215	20	40	60
All Office Machine Operators	1	1	0	0	0
Accounting Clerks	9	10	1	0	1
Bookkeepers, Hand	6	7	1	0	1
General Clerks, Office	30	33	3	8	11
Secretaries	9	10	1	4	5
Statistical Clerks	5	6	1	0	1
Typists	8	9	1	4	5
Clerical Supervisors	6	7	1	0	1
Directory Assistance Operators	10	11	1	4	5
Central Office Operators	25	28	3	8	11
Customer Service Representatives	36	40	4	8	12

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

YAVAPAI COUNTY (Continued)

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
All Other Office Clerical Workers	15	17	2	4	6
Meter Readers, Utilities	17	19	2	0	2
Production Clerks &/or Coordinators	5	6	1	0	1
Shipping &/or Receiving Clerks	2	2	0	0	0
Stock Clerks	1	1	0	0	0
Dispatchers, Vehicle, Service or Work	8	9	1	0	1
All Other Plant Clerical Workers	2	2	0	0	0
TOTAL SALES WORKERS	21	23	2	4	6
Sales Agents, Associates &/or Representatives	19	21	2	4	6
All Other Sales Agents, Associates, &/or Representatives	2	2	0	0	0
TOTAL ALL OCCUPATIONS	733	810	77	71	148

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

PROFESSIONAL WORKERS

All Other Professional Workers
Accountants & Auditors
Broadcast News Analysts

TECHNICAL WORKERS

All Other Engineering Technicians
Electrical & Electronic Technicians

All Other Technical Workers
Airplane Pilots
Emergency Medical Technicians

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
Mechanics, Aircraft
Electric Meter Installers

All Other Skilled Craft Workers
Bus Drivers
Central Office Repairers
Line Installers, Repairers
Machinists
Trouble Shooters, Power Lines

MAINTENANCE & PRODUCTION WORKERS (Cont'd.)

All Other Operatives & Semiskilled Workers
Truck Drivers
Truck Drivers, Light
Cable Installers
Cable Repairers
Delivery & Route Workers
Heavy Equipment Operators
Pipelayers
Taxi Drivers
Water Treatment Plant Operators

All Other Laborers & Unskilled Workers
Cleaners, Vehicle
Ground Workers, Utilities
Helpers, Trades
Refuse Collectors

CLERICAL WORKERS

All Other Clerical Workers
Cashiers
Payroll &/or Timekeeping Clerks
Receptionists

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

YUMA COUNTY

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL MANAGERS & OFFICERS	88	103	15	12	27
Managers & Officers	87	102	15	12	27
All Other Managers & Officers	1	1	0	0	0
TOTAL PROFESSIONAL WORKERS	68	80	12	4	16
Electrical & Electronic Engineers	11	13	2	0	2
All Other Engineers	2	2	0	0	0
Announcers	21	25	4	0	4
All Other Professional Workers	34	40	6	4	10
TOTAL TECHNICAL WORKERS	24	28	4	0	4
Electrical & Electronic Technicians	11	13	2	0	2
Surveyors	1	1	0	0	0
Estimators & Drafters, Utilities	3	3	0	0	0
All Other Engineering Technicians	9	10	1	0	1
TOTAL SERVICE WORKERS	11	13	2	0	2
Janitors, Porters, & Cleaners	9	10	1	0	1
All Other Service Workers	2	2	0	0	0
TOTAL MAINTENANCE & PRODUCTION WORKERS	404	476	72	20	92
Mechanics, Aircraft	10	12	2	0	2
Mechanics, Automotive	8	9	1	0	1
Electric Meter Installers	5	6	1	0	1
Hydroelectric Machinery Mechanics	1	1	0	0	0
Mechanics, Maintenance	1	1	0	0	0
Radio Mechanics	12	14	2	0	2
All Other Mechanics & Repairers	4	5	1	0	1
Truck Drivers	28	33	5	0	5
Truck Drivers, Heavy	11	13	2	0	2
Tractor-Trailer Truck Drivers	21	25	4	0	4
Cable Installers	19	22	3	0	3
Cable Repairers	6	7	1	0	1
Cable Repairers, Apprentice	1	1	0	0	0
Cable Splicers	5	6	1	0	1
Control Room Operators, Steam	5	6	1	0	1
Electricians	2	2	0	0	0
Auxiliary Equipment Operators	5	6	1	0	1
Supervisors, Nonworking	33	39	6	4	10
Frame Wireers	3	3	0	0	0
Gas Compressor Operators	1	1	0	0	0
Heavy Equipment Operators	2	2	0	0	0
Installers, Repairers, &/or Section					
Maintainers	16	19	3	0	3
Installers, Repairers, &/or Section					
Maintainers, Apprentice	1	1	0	0	0
Instrument Repairers	2	2	0	0	0
Line Installers, Repairers	17	20	3	0	3
Helpers, Trades	8	9	1	0	1
Station Installers	14	16	2	0	2
Stationary Engineers	1	1	0	0	0
Trouble Locators, Test Desk	5	6	1	0	1
Welders & Flamecutters	3	3	0	0	0
Line Service Attendants	5	6	1	0	1
All Other Skilled Craft Workers	37	44	7	4	11
All Other Operatives & Semiskilled					
Workers	99	117	18	12	30
All Other Laborers & Unskilled Workers	13	15	2	0	2

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

YUMA COUNTY (Continued)

	Estimated 1979 Employment	Projected 1983 Employment	Job Openings Due to Growth 1979-1983	Job Openings Due to Separations 1979-1983	Total Job Openings 1979-1983
TOTAL CLERICAL WORKERS	234	274	40	39	79
Bookkeeping &/or Billing Machine Operators	6	7	1	0	1
All Other Office Machine Operators	1	1	0	0	0
Stenographers	2	2	0	0	0
Bookkeepers, Hand	8	9	1	0	1
Collectors	2	2	0	0	0
General Clerks, Office	43	50	7	11	18
Secretaries	11	13	2	4	6
Statistical Clerks	4	4	1	0	1
Traffic Clerks	4	4	1	0	1
Typists	7	8	1	0	1
Clerical Supervisors	8	9	1	0	1
Directory Assistance Operators	9	10	1	4	5
Central Office Operators	23	27	4	8	12
Customer Service Representatives	35	41	6	8	14
All Other Office Clerical Workers	23	27	4	4	8
Meter Readers, Utilities	9	10	1	0	1
Production Clerks &/or Coordinators	10	12	2	0	2
Shipping &/or Receiving Clerks	7	8	1	0	1
Stock Clerks	5	6	1	0	1
Dispatchers, Vehicle, Service or Work	11	13	2	0	2
All Other Plant Clerical Workers	6	7	1	0	1
TOTAL SALES WORKERS	24	28	4	4	8
Sales Agents, Associates, &/or Representatives	20	23	3	4	7
All Other Sales Agents, Associates, &/or Representatives	4	4	0	0	0
TOTAL ALL OCCUPATIONS	853	1,002	149	79	228

Occupations that have been added to the "All" or "All Other" categories or collapsed into major occupational classes are as follows:

PROFESSIONAL WORKERS

All Other Engineers
Civil Engineers

All Other Professional Workers
Teachers, Vocational Education Or Training
Television Camera Operators
Purchasing Agents &/or Buyers
Accountants & Auditors
Broadcast News Analysts
Writers &/or Editors
Film Editors
Reporters & Correspondents
Technical Directors
Travel Agents

TECHNICAL WORKERS

All Other Engineering Technicians
Broadcast Technicians

SERVICE WORKERS

All Other Services Workers
Food Service Workers

MAINTENANCE & PRODUCTION WORKERS

All Other Mechanics & Repairers
Diesel Mechanics

All Other Skilled Craft Workers
Carpenters
Central Office Repairers
Machinists
Maintenance Repairers, General Utility
Plumbers &/or Pipefitters
Substation Operators
Trouble Shooters, Power Line

All Other Operatives & Semiskilled Workers
Truck Drivers, Light
Crane, Derrick, & Hoist Operators
Delivery & Route Workers
Industrial Truck Operators
Pipelayers
Taxi Drivers
Watershed Tenders
Water Treatment Plant Operators
Surveyor Helpers
Truck Driver Helpers
Ambulance Drivers &/or Attendants

CURRENT AND PROJECTED ESTIMATED EMPLOYMENT AND JOB OPENINGS
TRANSPORTATION, COMMUNICATIONS, AND PUBLIC UTILITIES

YUMA COUNTY (Continued)

MAINTENANCE & PRODUCTION WORKERS (Cont'd.)

All Other Laborers & Unskilled Workers
Ground Workers, Utilities
Refuse Collectors

CLERICAL WORKERS

All Other Office Machine Operators
Computer Operators

All Other Office Clerical Workers
Accounting Clerks
Cashiers

CLERICAL WORKERS (Cont'd.)

Receptionists
Switchboard Operators/Receptionists
Ticket Agents

All Other Plant Clerical Workers
Shipping Packers
Dispatchers, Airplane

SALES WORKERS

All Other Sales Workers
Crating & Moving Estimators

METHODOLOGY

Limitations of the Data

The projection methods do not account for cyclical, seasonal, and such external factors as sudden and large establishment openings or closings. The methodology also assumes that the labor market areas are self-contained and generally devoid of significant levels of commuting and migration from one district to another for employment.

The occupational data in this publication only refer to employees who earned a wage or salary. Self-employed and unpaid family workers are not represented in the statistics.

Sample Selection and Response Rate

Occupational estimates for the Transportation, Communication, and Public Utilities Industry were developed from a survey of employers throughout the state. Employers who were asked to participate in the survey were selected from a master file of firms doing business in Arizona, using standardized sampling techniques. Establishments selected as part of the sample were those that employed four to 99 employees. All establishments having 100 or more employees were surveyed. The entire sample was composed of 718 firms with a usable response rate of 94.6 percent.

Employment Projections

Transportation, communications, and public utilities employment was projected using regression analysis and was adjusted to reflect recent industry developments. The 1983 occupational employment was calculated by applying adjusted staffing pattern ratios (as determined by the survey) to the industry projections. The adjustments to the ratio reflect national trends of evolving occupational distribution.¹

Job Openings

The difference between 1979 and 1983 employment for each occupation represents expected job openings due to growth. Job openings due to separations were calculated by interpolating 1970 and 1985 separation rates for each occupation² and applying them to the occupational employment projections. Total job openings is the sum of openings due to growth and separations.

¹"Tomorrow's Manpower Needs," Vol. IV, BLS, Feb. 1971, pp. 99-104.

²"Tomorrow's Manpower Needs," Supplement No. 4, BLS, 1974, pp. 11-16.

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